Puget Sound Gateway Program

SR 167 Completion and SR 509 Completion Projects

Joint Steering Committee
December 7, 2016

CRAIG J. STONE, PE — GATEWAY PROGRAM ADMINISTRATOR
STEVE FUCHS, PE — SR 167 PROJECT MANAGER
OMAR JEPPERSON, PE — SR 509 PROJECT MANAGER

Agenda

- Welcome & Introductions
- Process Review
- Project Scenarios and Traffic Analysis Results
- Review Forward Compatibility
- Review Updated Cost Estimates
- Discuss FASTLANE Grant Application
- Recommend Preliminary Preferred Scenario
- Conclusion and Next Steps

Practical Design

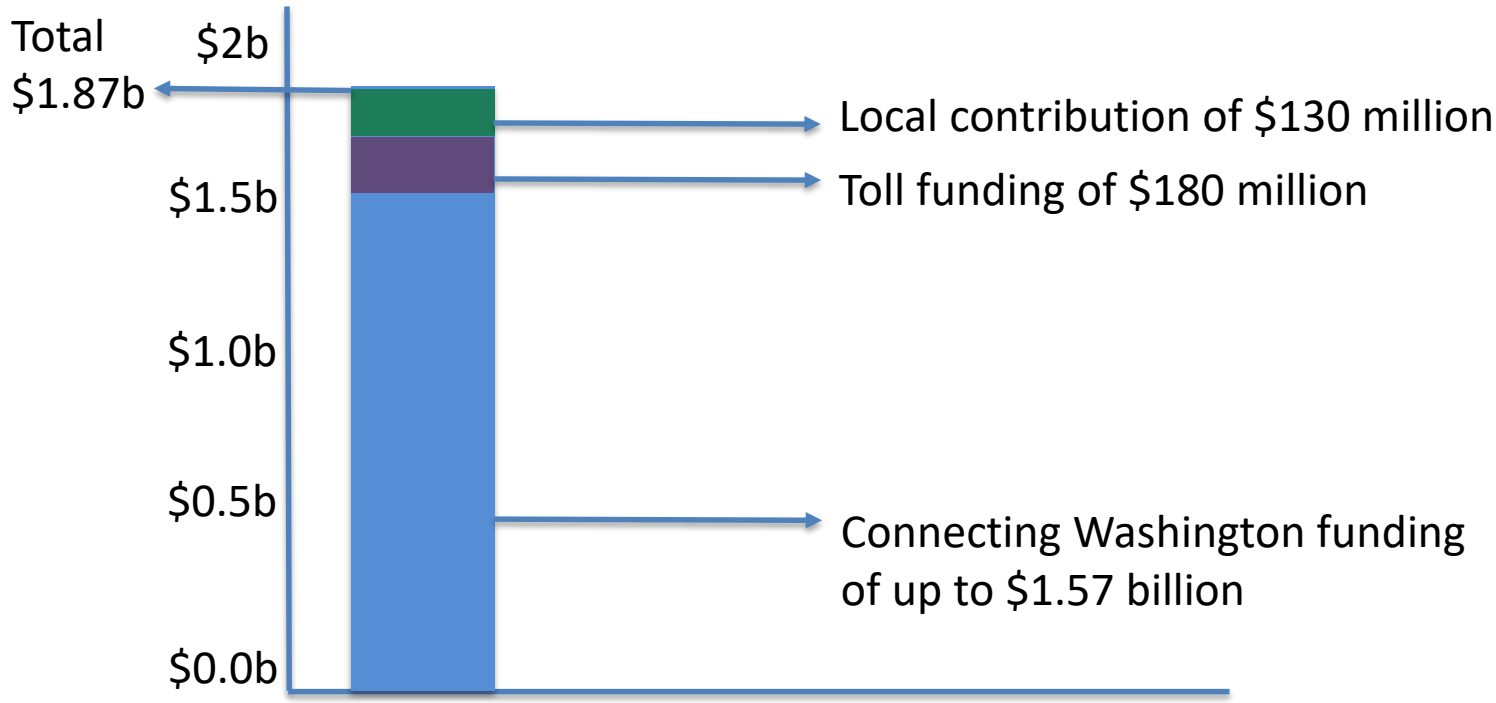
- **WSDOT Executive Order 1096:**
  - *WSDOT will design transportation infrastructure related solutions that are targeted to **address the essential needs of a project, not every need.** In doing so, designs are developed with criteria that achieve stated performance for the least cost…*
- **ESHB 2012:**
  - *(1)(a) For projects identified as Connecting Washington projects…The legislature encourages the department to continue to institutionalize innovation and collaboration in design and project delivery with an eye toward the most efficient use of resources. **In doing so, the legislature expects that, for some projects, costs will be reduced during the project design phase due to the application of practical design***

Puget Sound Gateway Program Guiding Principles

1. Support regional mobility to provide efficient movement of freight and people
2. Improve local, regional, state and national economic vitality
3. Provide a high level of safety
4. Support local and regional comprehensive land use plans
5. Minimize environmental impacts and seek opportunities for meaningful improvements
6. Create solutions that are equitable, fiscally responsible, and allow for implementation over time
7. Support thoughtful community engagement and transparency

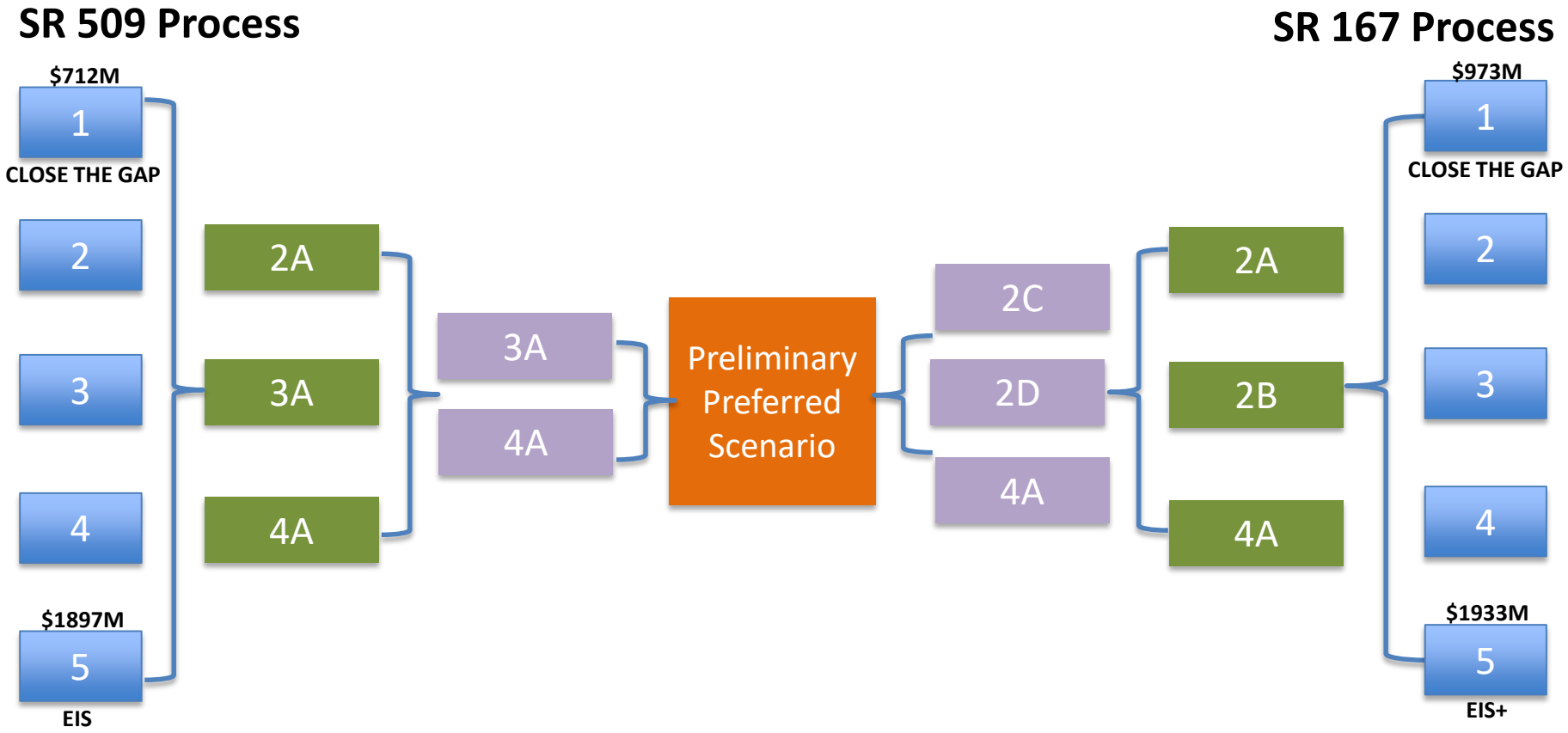
Puget Sound Gateway Program

Total funding is $1.87 billion; this amount assumes $310 million local match and tolling funding.



Joint Steering Committee Work Plan

Scenario Refinement Process



SR 167 Scenario Comparison Table

Scenario Comparison Table - SR 167 Completion Project

Performance Category	Baseline Performance Metrics															Contextual Performance Metrics								Cost
	Mobility													Economic Vitality	Safety	Safety	Active Mobility				Env't	Other			
Mode	Auto / Freight	HOV / Bus	Auto / Freight	HOV/Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus		Auto / Freight	HOV / Bus				Ped	Bike	Ped	Bike				
Performance METRIC SCENARIO	**SR 167 Performance** Maintain or Improve SR 167 Operations between SR 161 and I-5		**SR 509 Spur Performance** Maintain or Improve SR 509 Spur Operations between I-5 and SR 509		**I-5 Performance** Maintain or Improve I-5 Operations between I-705 and SR 18		**Travel Time** Reduce travel time between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		**Travel Time Reliability** Improve travel time reliability between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		**Complete Freeway Network / Redundancy Achieved**	**Delay** Reduce hours of delay in subarea network		**Economic Benefit** Improve economic vitality	**Local and Regional Comprehensive Plan** Support local and regional comprehensive land use planning and development	**Safety** # of Serious Injury and Fatal Crashes (I-5 & SR 167 & SR 509)	**Safety** # of Serious injury and fatal crashes on local arterials	**Number and location of Crossings** Reduce Pedestrian vehicle exposure by reducing traffic volumes		**Continuity and Consistency of Pedestrian facility** Improve Pedestrian & Bicycle continuity along new corridor		**Sensitive Area Impact** Reduce area of impact to sensitive areas	**Forward Compatibility**	**Right of Way Impact** Reduce Right of Way impact	**Compatibility** With Transit Long Range Plans	
No Build																								
Scenario 2C: Full Connectivity at I-5 with Split Diamond at Valley and Meridian																								
Scenario 2D: Limited Connectivity at I-5 with Split Diamond at Valley & Meridian																								
Scenario 4A: Moderate Connectivity at I-5 w/Full Meridian Connectivity																								

SR 509 Scenario Comparison Table

Scenario Comparison Table - SR 509 Completion Project

Date: 12/07/16

Performance Category	Essential Performance Metrics										Contextual Performance Metrics							Cost
	Mobility								Economic Vitality		Safety	Mobility				Env't	Other	
Mode	Auto / Freight	HOV / BUS	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit										
Performance METRIC / SCENARIO	SR 509 Performance Improve throughput and travel levels of congestion on new SR 509 facility		I-5 Performance Maintain or Improve I-5 Operations between S. Spokane St and SR 518	Delay Reduce hours of delay in project study network	Airport - Travel Time Reduce travel time between SeaTac Airport and the area south of S 200th St.	Airport - Travel Time Reliability Improve travel time reliability between SeaTac Airport and the area south of S 200th St.	Centers - Travel Time Reduce travel time between Urban Centers Manufacturing/Industrial Centers in South King County	Centers - Travel Time Reliability Improve travel time reliability between Urban Centers Manufacturing/Industrial Centers in South King County	Economic Benefit Improve economic vitality	Local and Regional Comprehensive Plan Support local and regional comprehensive land use planning and development	Safety Avoid Serious Injury and Fatal Crashes on I-5 & SR 509	Safety Avoid Serious Injury and fatal crashes on local arterials	Support multimodal choices to SeaTac Airport and KDM Link Light Rail Station	Improve intermodal relationships between the SeaPort, Airport, and Manufacturing/Industrial Centers	Number and location of Crossings Reduce Pedestrian service separation	Ped & Bike Continuity and Consistency of Pedestrian and Bicycle facilities Improve Continuity and Consistency of Pedestrian and Bicycle facilities	Sensitive Area Impact Reduce area of impact to sensitive areas	Forecast Compatibility with future highway widening Right of Way Impact Reduce Right of Way impact Sound Transit FWLE Project	PRELIMINARY COST REVIEW
No Build																		
Scenario 3A - Moderate Connectivity																		
Scenario 4A - Full Connectivity																		

Key Questions

Program Level	1. How many lanes are included on SR 167 and SR 509? 2. What level of tolling is considered? 3. How are lanes managed?
Project Level	4. What degree of forward compatibility should be included in the design? 5. Degree of potential impact to I-5? 6. Where are connections most important? 7. How is south access to the airport accommodated? (SR 509) 8. How is access to the Port of Tacoma best accommodated? (SR 167)

SR 167 Scenarios & Traffic Analysis

Scenario 2C: Full Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

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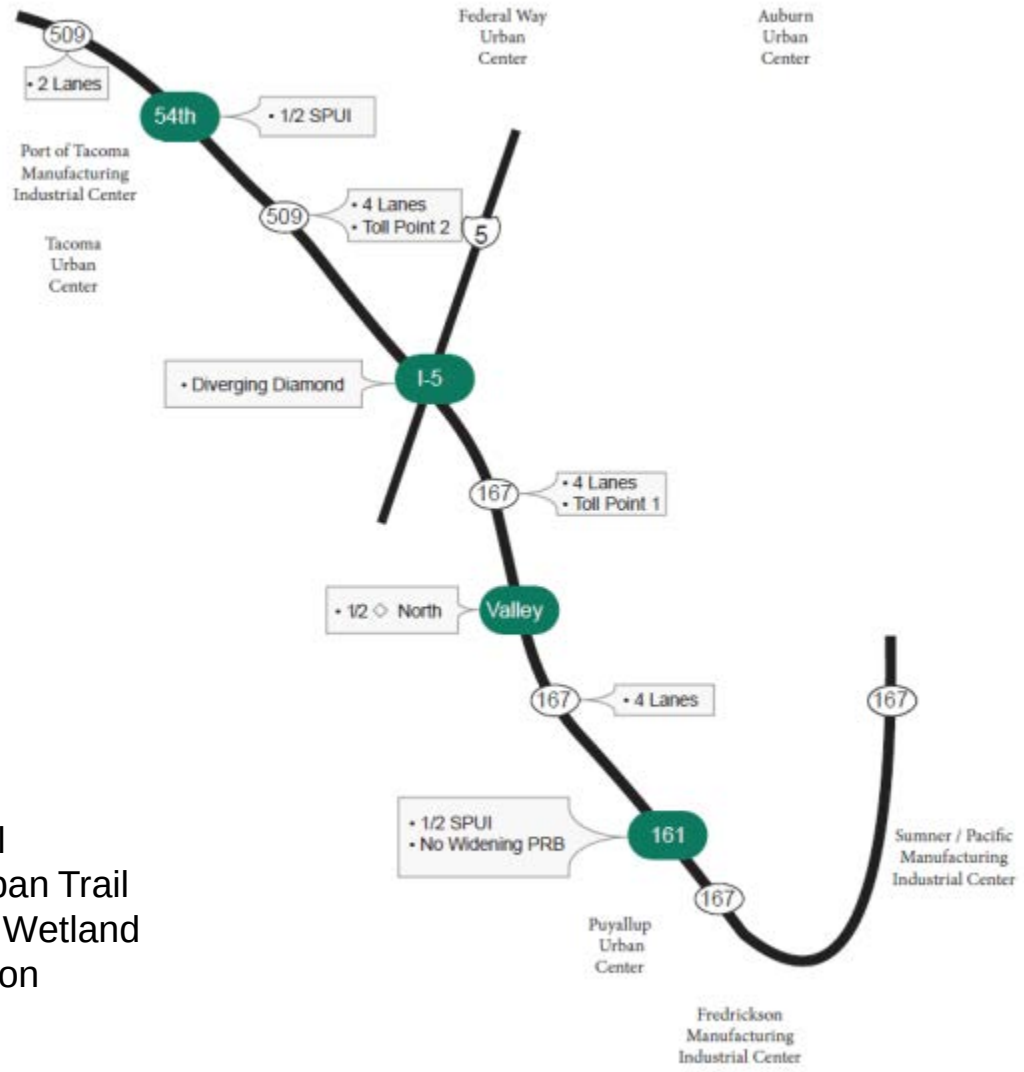
Scenario 2C: Full Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

<u>Highlighted features:</u>

- ½ SPUI at 54th Ave interchange
- Service level Diverging Diamond interchange at I-5
- ½ Diamond interchange at Valley Avenue
- ½ SPUI interchange at Meridian Avenue



Other Items Total

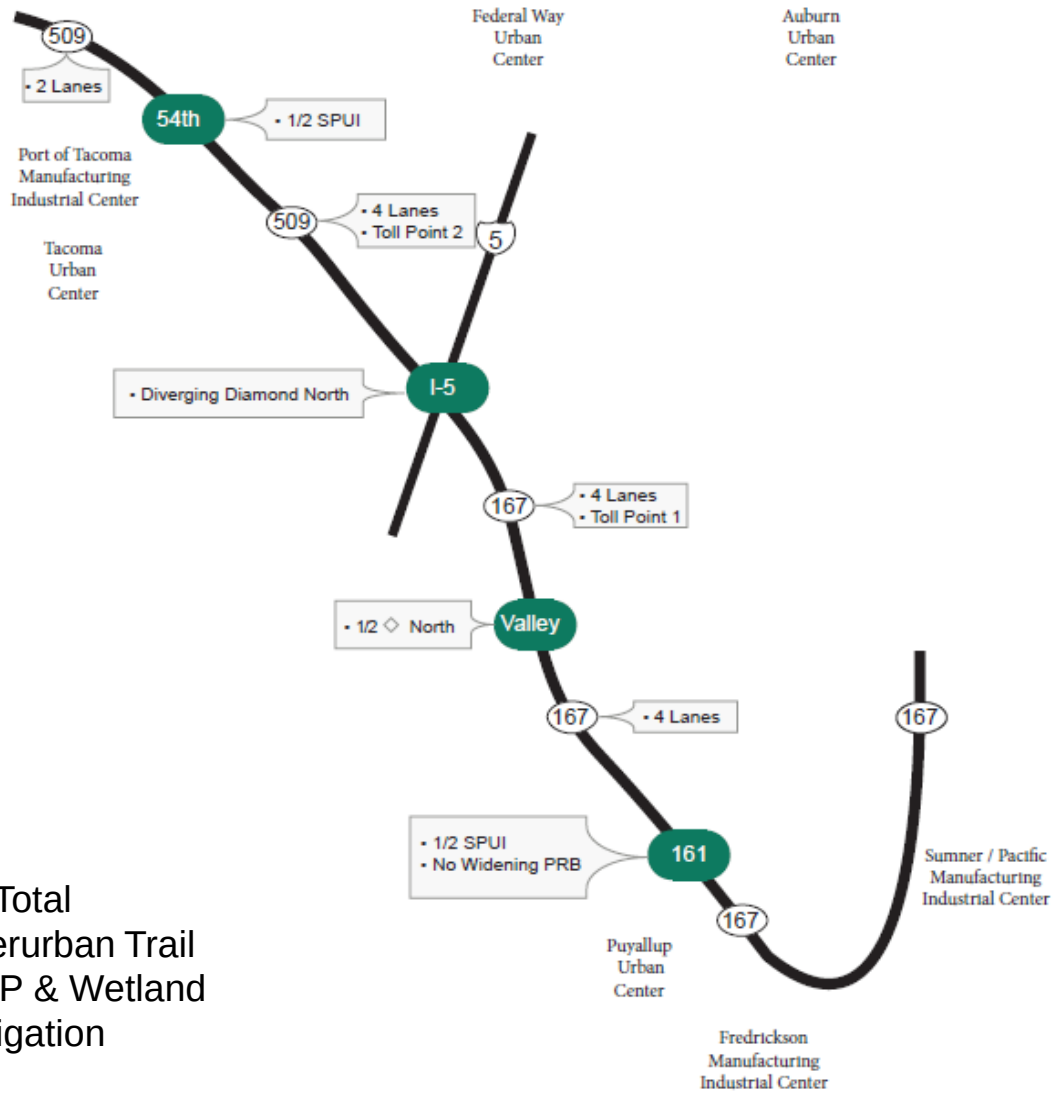
- Interurban Trail
- RRP & Wetland Mitigation

Scenario 2D: Limited Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

Scenario 2D: Limited Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

<u>Highlighted features:</u>

- ½ SPUI at 54th Ave interchange
- Service level Diverging Diamond interchange at I-5 with connections to/from north only
- ½ Diamond interchange at Valley Avenue
- ½ SPUI interchange at Meridian Avenue



Other Items Total

- Interurban Trail
- RRP & Wetland Mitigation

Scenario 4A: Moderate Connectivity at I-5 with Full Connectivity at Meridian Avenue

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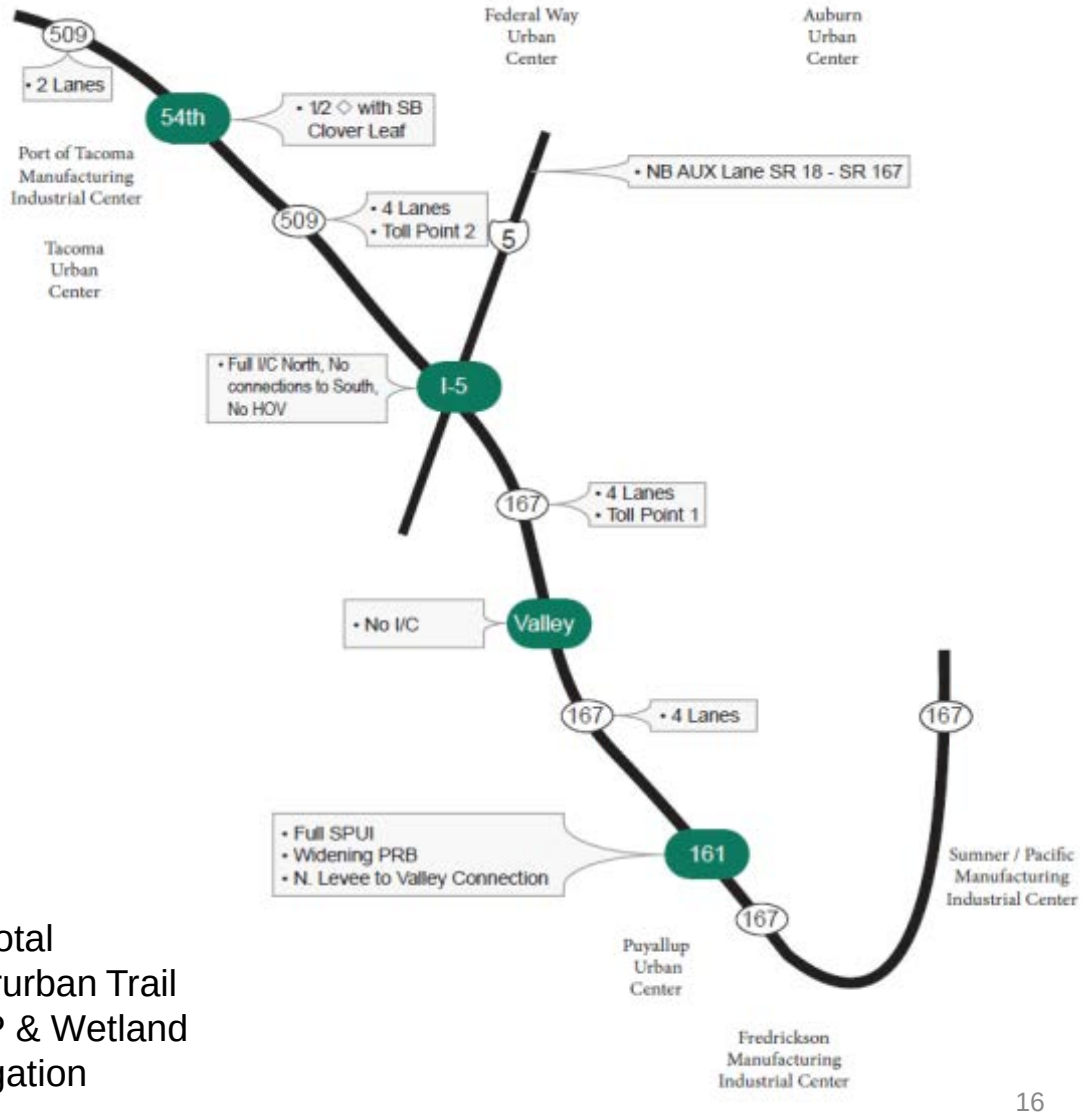
Scenario 4A: Moderate Connectivity at I-5 with Full Connectivity at Meridian Avenue

Highlighted features:

- ½ Diamond with SB cloverleaf at 54th Ave interchange
- System level interchange to\from the north at I-5
- NB I-5 auxiliary lane
- No interchange at Valley Avenue
- Full SPUI at Meridian interchange
- Widen NB Puyallup River Bridge
- N. Levee to Valley Connector

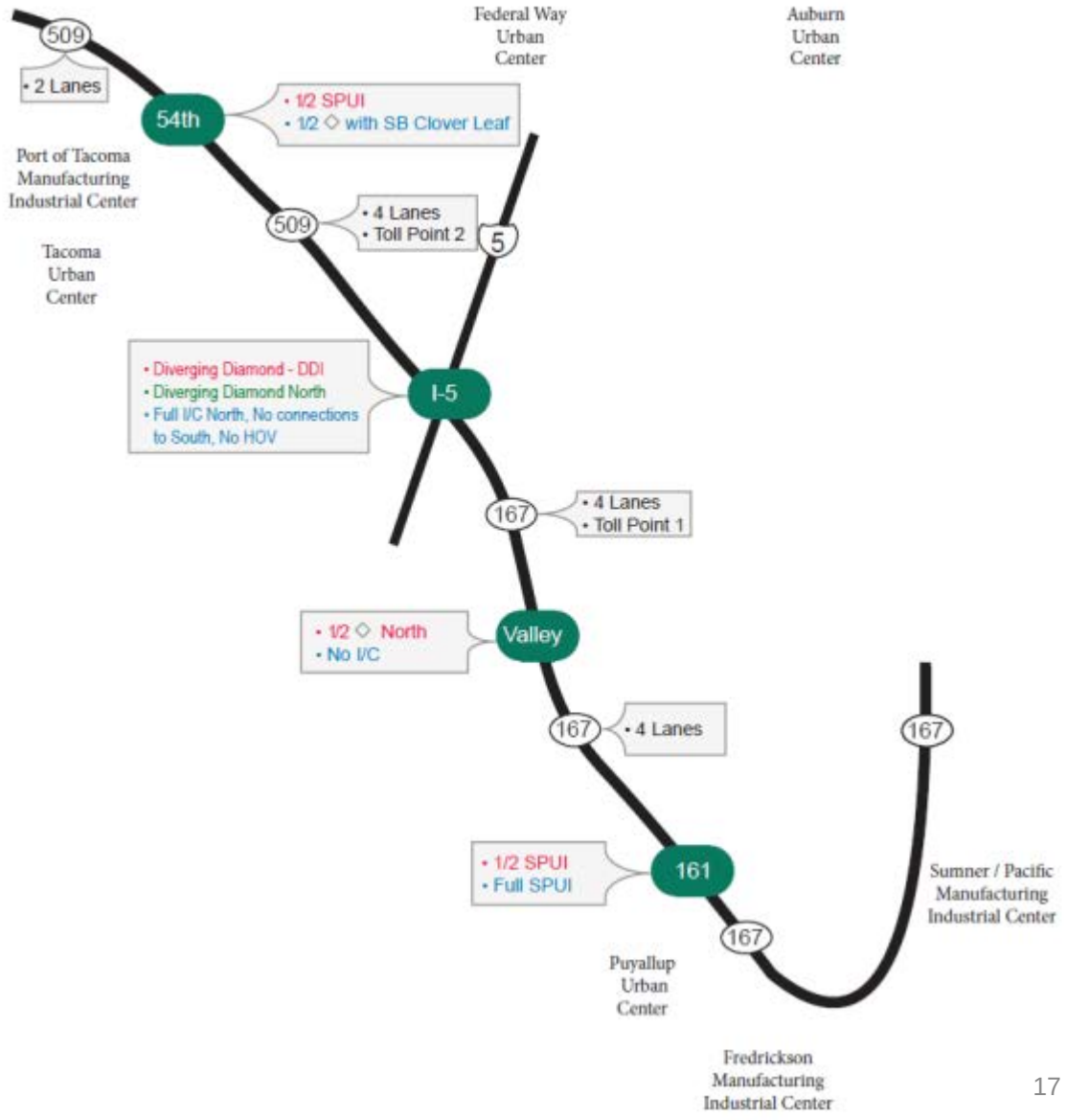


Other Items Total

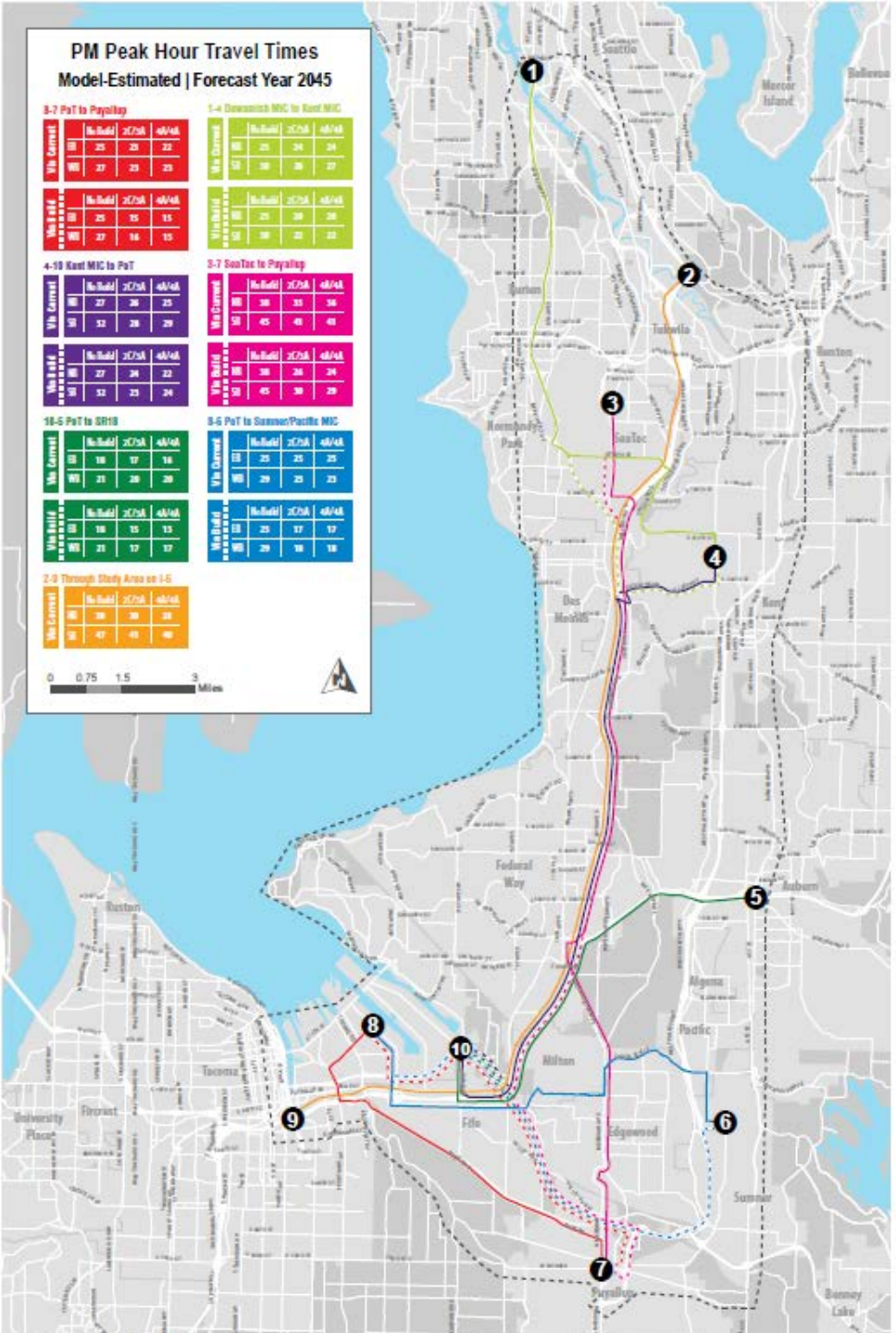
- Interurban Trail
- RRP & Wetland Mitigation

Scenario 2C/2D/4A Comparison

Legend:
Scenario 2C
Scenario 2D
Scenario 4A
Shared Component



Refined Traffic Analysis Results



- Presents only analysis for PM peak
- Used Dynamic Traffic Assignment (DTA)/Mesoscopic tools

I-5 Travel Times

2025

2-9 Through Study Area on I-5

Via Current	No Build	2C/3A	4A/4A
NB	27	27	26
SB	36	34	35

2045

2-9 Through Study Area on I-5

Via Current	No Build	2C/3A	4A/4A
NB	30	30	28
SB	47	41	40

PM Peak Projected Travel Times for Selected South End Routes: 2025

8-7 PoT to Puyallup

		No Build	2C/3A	4A/4A
Via Current	EB	21	20	21
	WB	23	19	19
Via Build	EB	21	14	14
	WB	23	14	13

10-5 PoT to SR18

		No Build	2C/3A	4A/4A
Via Current	EB	17	15	14
	WB	17	17	18
Via Build	EB	17	14	12
	WB	17	14	16

8-6 PoT to Sumner/Pacific MIC

		No Build	2C/3A	4A/4A
Via Current	EB	25	24	24
	WB	22	22	22
Via Build	EB	25	16	16
	WB	22	16	16

4-10 Kent MIC to PoT

		No Build	2C/3A	4A/4A
Via Current	NB	26	24	23
	SB	29	27	27
Via Build	NB	26	23	21
	SB	29	22	23

% Travel Time Savings:

	2C/3A	4A/4A
• EB	33%	33%
• WB	39%	43%

% Travel Time Savings:

	2C/3A	4A/4A
• EB	36%	36%
• WB	27%	27%

PM Peak Projected Travel Times for Selected South End Routes: 2045

8-7 PoT to Puyallup

Via Current

	No Build	2C/3A	4A/4A
EB	25	23	22
WB	27	23	23

Via Build

	No Build	2C/3A	4A/4A
EB	25	15	15
WB	27	16	15

% Travel Time Savings:

	2C/3A	4A/4A
• EB	40%	40%
• WB	40%	44%

10-5 PoT to SR18

Via Current

	No Build	2C/3A	4A/4A
EB	18	17	16
WB	21	20	20

Via Build

	No Build	2C/3A	4A/4A
EB	18	15	13
WB	21	17	17

4-10 Kent MIC to PoT

Via Current

	No Build	2C/3A	4A/4A
NB	27	26	25
SB	32	28	29

Via Build

	No Build	2C/3A	4A/4A
NB	27	24	22
SB	32	23	24

8-6 PoT to Sumner/Pacific MIC

Via Current

	No Build	2C/3A	4A/4A
EB	25	25	25
WB	29	23	23

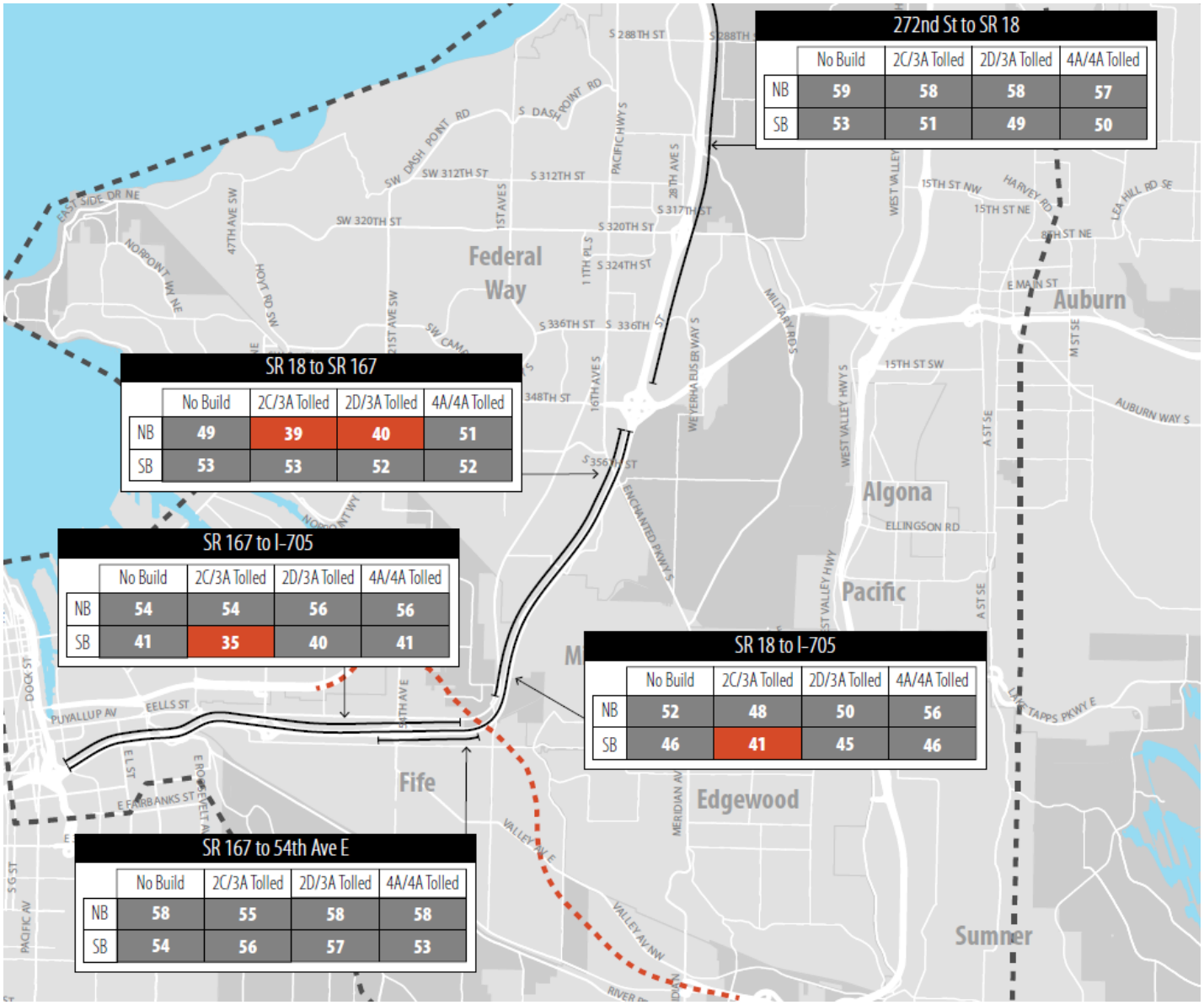
Via Build

	No Build	2C/3A	4A/4A
EB	25	17	17
WB	29	18	18

% Travel Time Savings:

	2C/3A	4A/4A
• EB	32%	32%
• WB	38%	38%

PM Peak Period Speeds: 2025



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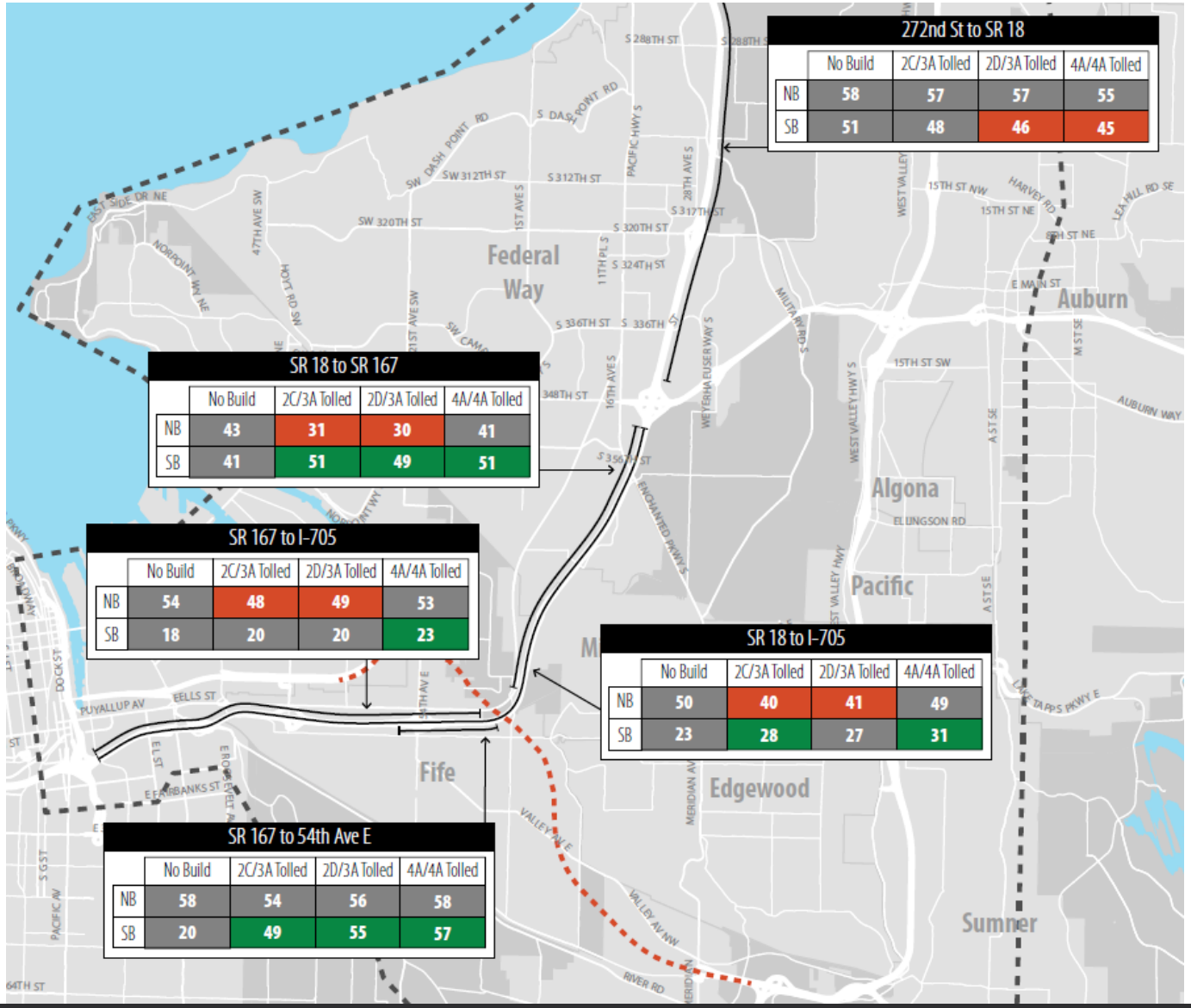
PM Peak Period Speeds: 2045



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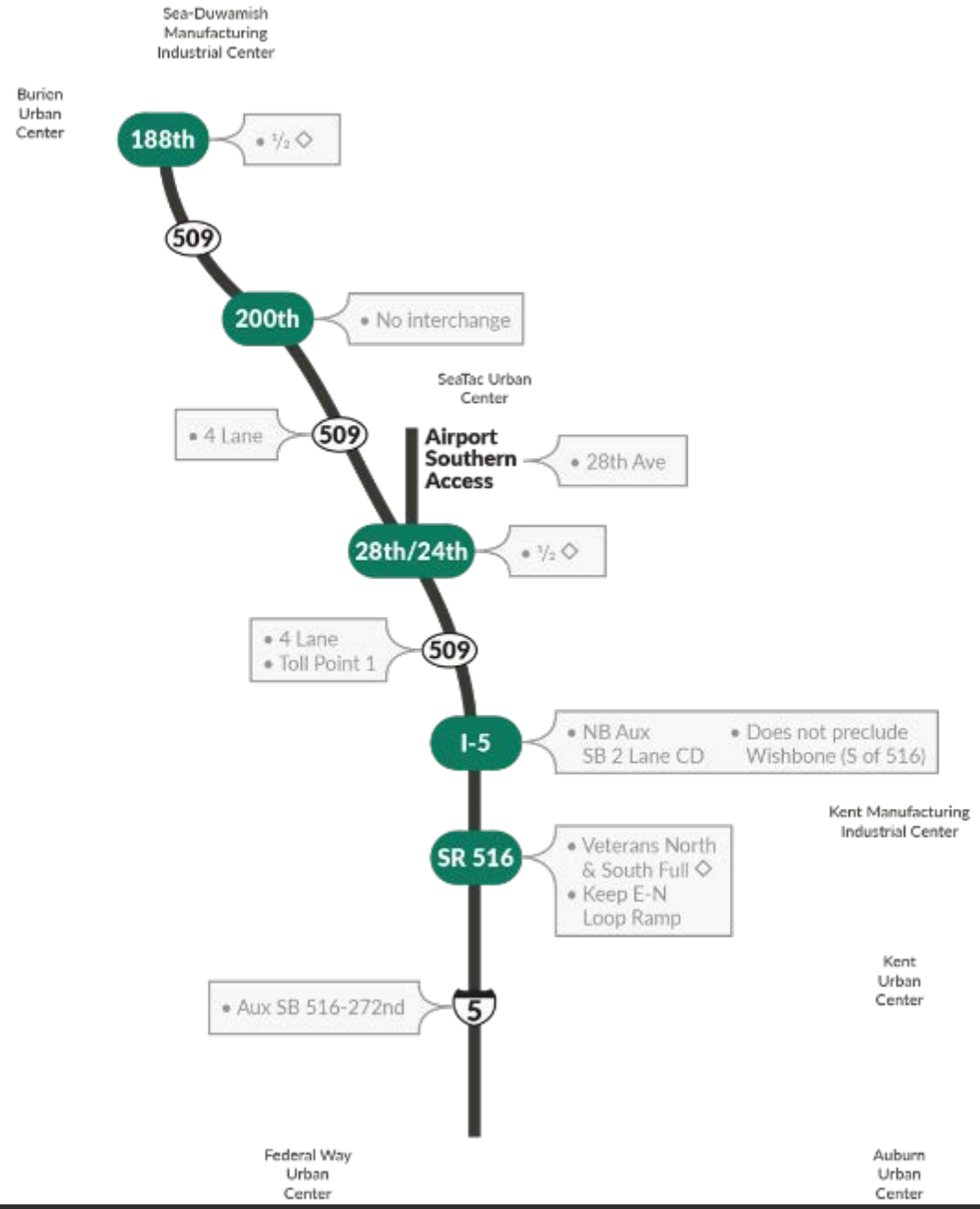
SR 509 Scenarios & Traffic Analysis

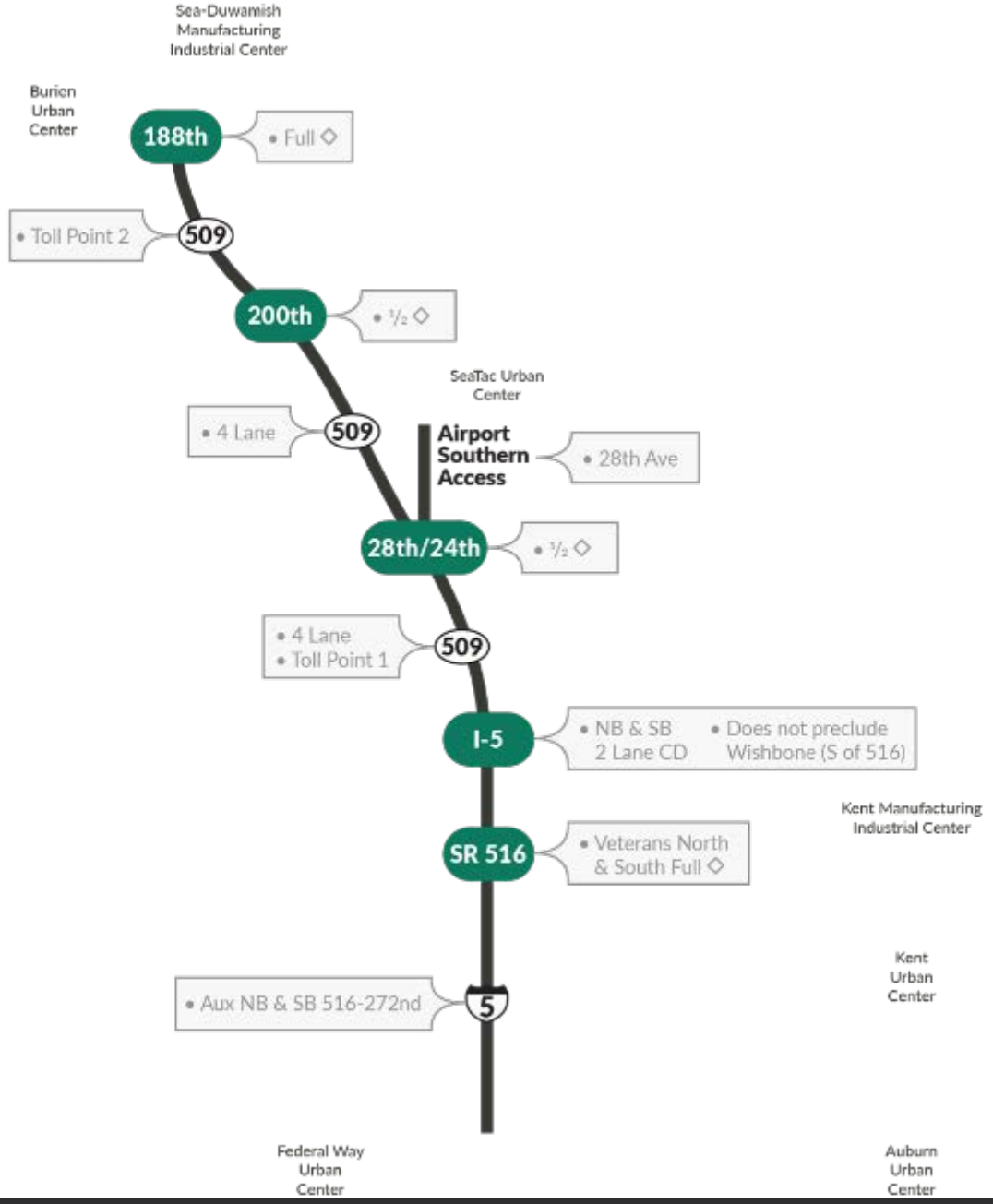
Scenario 3A

Scenario 3A


Sea-Duwamish Manufacturing Industrial Center
Burien Urban Center
188th
• ½ ◇
509
200th
• No interchange
SeaTac Urban Center
• 4 Lane
509
Airport Southern Access
• 28th Ave
28th/24th
• ½ ◇
• 4 Lane
• Toll Point 1
509
I-5
• NB Aux SB 2 Lane CD
• Does not preclude Wishbone (S of 516)
Kent Manufacturing Industrial Center
SR 516
• Veterans North & South Full ◇
• Keep E-N Loop Ramp
Kent Urban Center
• Aux SB 516-272nd
5
Federal Way Urban Center
Auburn Urban Center

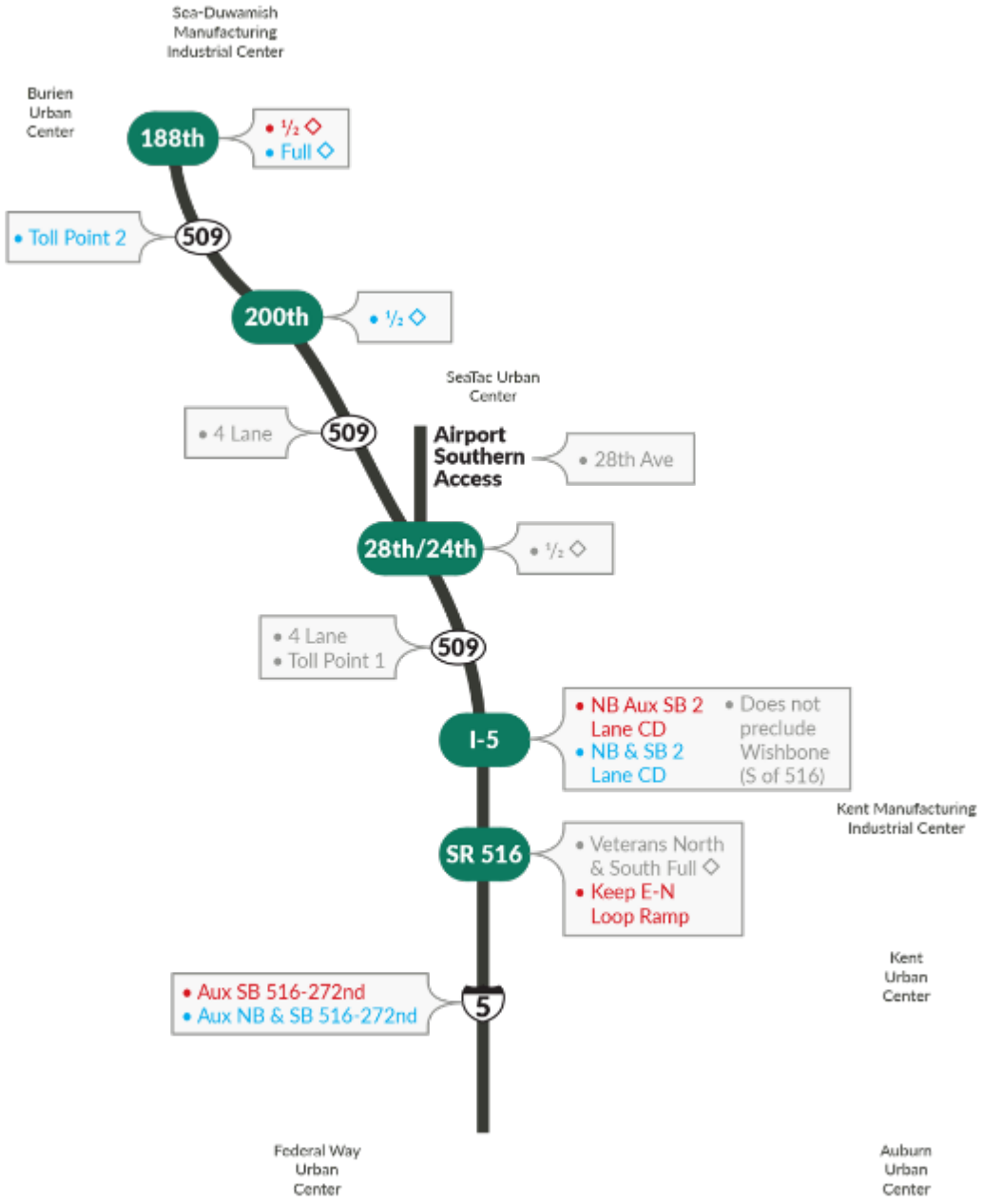
Scenario 4A

Scenario 4A


Sea-Duwamish Manufacturing Industrial Center
Burien Urban Center
188th
• Full ◇
• Toll Point 2
509
200th
• ½ ◇
SeaTac Urban Center
• 4 Lane
509
Airport Southern Access
• 28th Ave
28th/24th
• ½ ◇
• 4 Lane
• Toll Point 1
509
I-5
• NB & SB 2 Lane CD
• Does not preclude Wishbone (S of 516)
Kent Manufacturing Industrial Center
SR 516
• Veterans North & South Full ◇
Kent Urban Center
• Aux NB & SB 516-272nd
5
Federal Way Urban Center
Auburn Urban Center

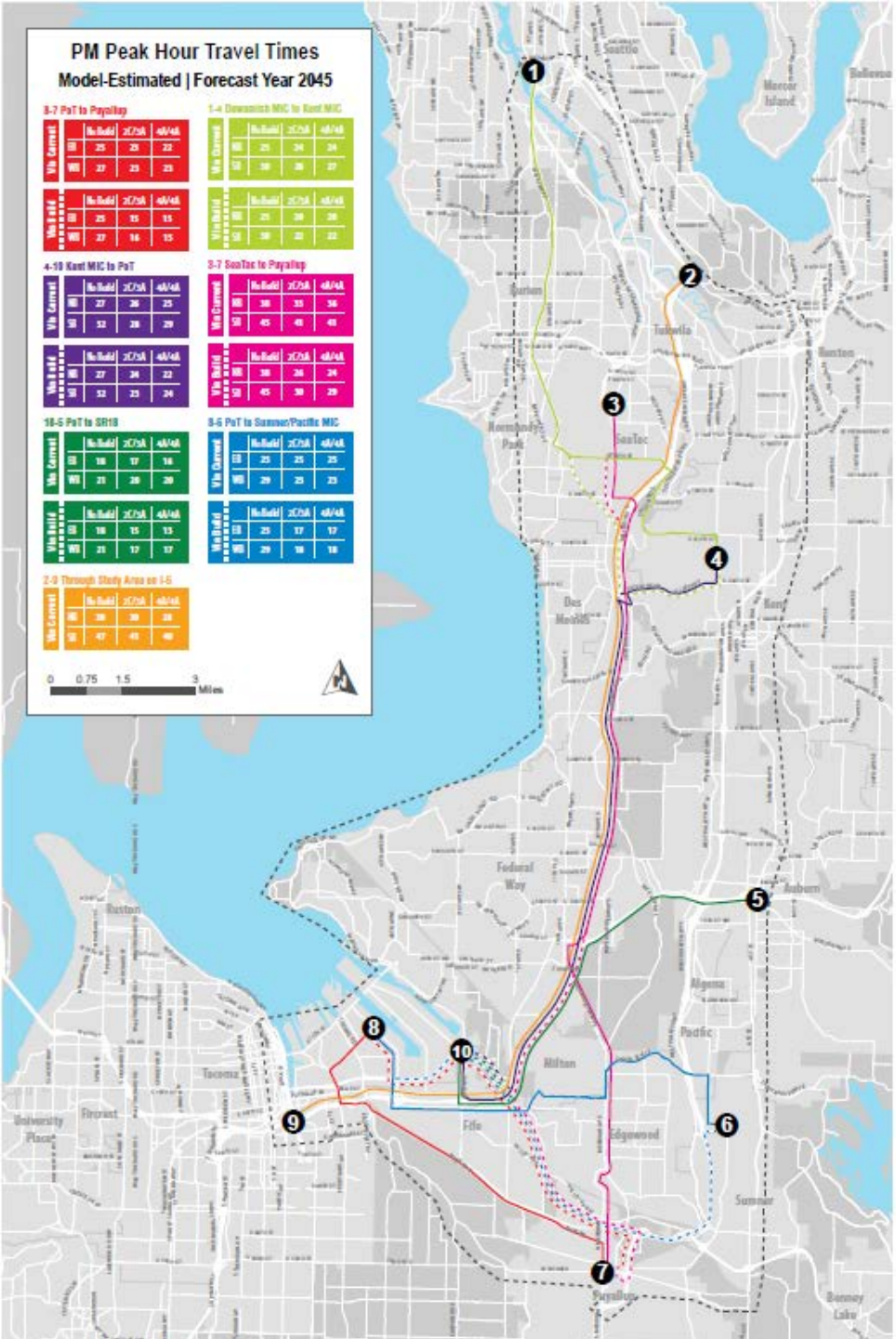
Scenario 3A/4A

Legend:
Scenario 3A
Scenario 4A
Shared Component



Refined Traffic Analysis Results

- Presents only analysis for PM peak
- Used Dynamic Traffic Assignment (DTA)/Mesoscopic tools



I-5 Travel Times

2025

2-9 Through Study Area on I-5

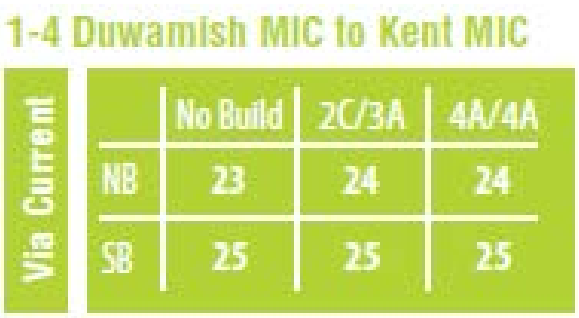
		No Build	2C/3A	4A/4A
Via Current	NB	27	27	26
	SB	36	34	35

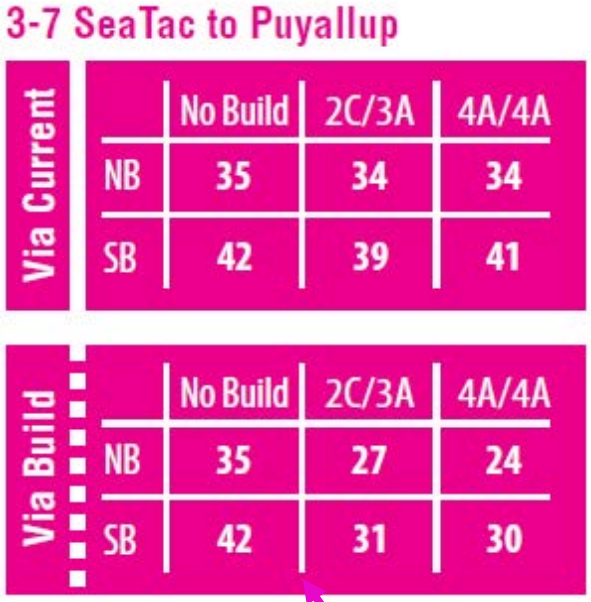
2045

2-9 Through Study Area on I-5

		No Build	2C/3A	4A/4A
Via Current	NB	30	30	28
	SB	47	41	40

PM Peak Period Travel Times: 2025





% Travel Time Savings:

	2C/3A	4A/4A
• NB	17%	17%
• SB	16%	16%

% Travel Time Savings:

	2C/3A	4A/4A
• NB	23%	31%
• SB	26%	29%

PM Peak Period Travel Times: 2045

1-4 Duwamish MIC to Kent MIC

Via Current

	No Build	2C/3A	4A/4A
NB	25	24	24
SB	30	28	27

Via Build

	No Build	2C/3A	4A/4A
NB	25	20	20
SB	30	22	22

% Travel Time Savings:

	2C/3A	4A/4A
• NB	20%	20%
• SB	27%	27%

3-7 SeaTac to Puyallup

Via Current

	No Build	2C/3A	4A/4A
NB	38	35	36
SB	45	41	41

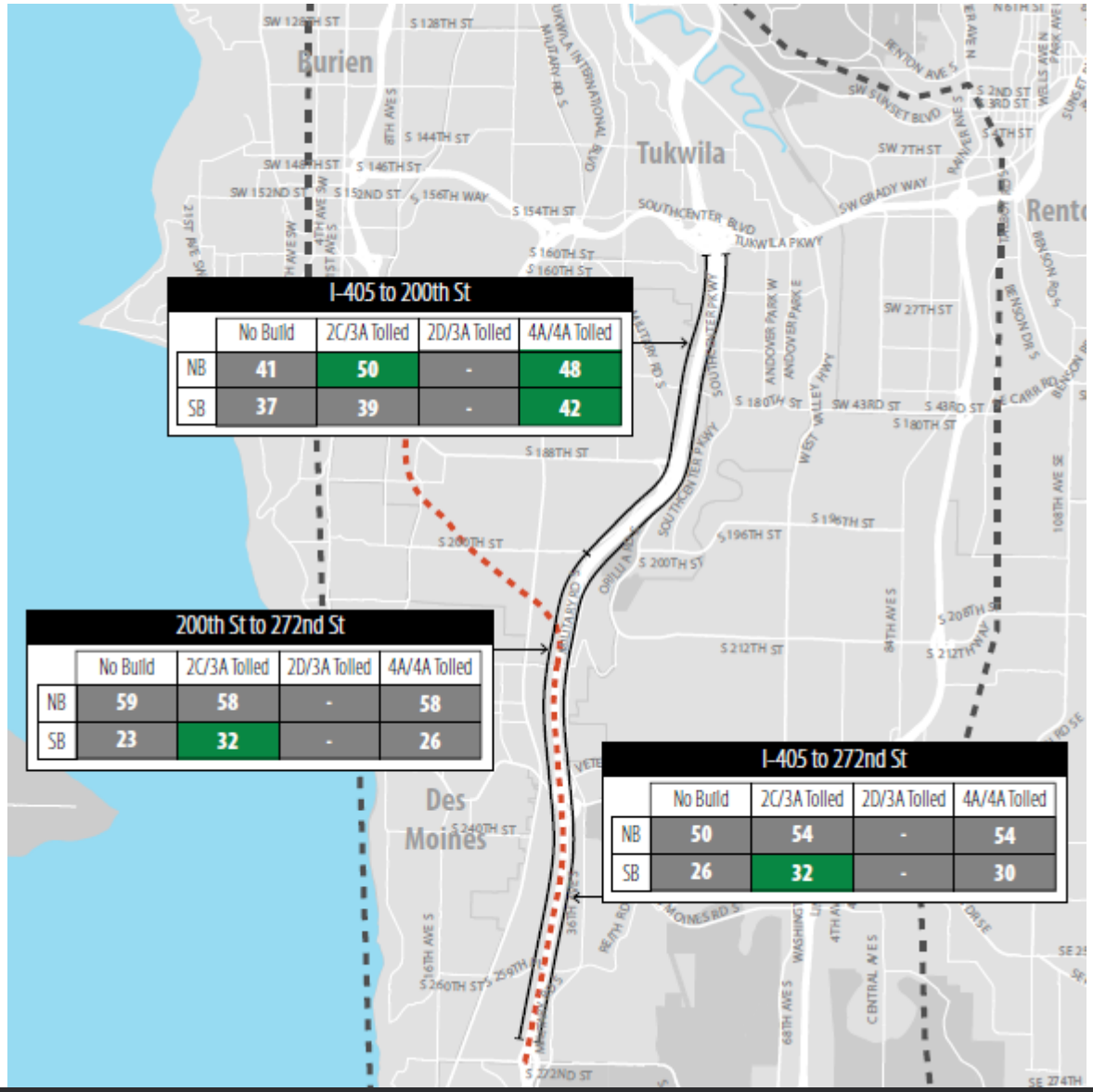
Via Build

	No Build	2C/3A	4A/4A
NB	38	26	24
SB	45	30	29

% Travel Time Savings:

	2C/3A	4A/4A
• NB	32%	37%
• SB	33%	36%

PM Peak Period Speeds: 2025



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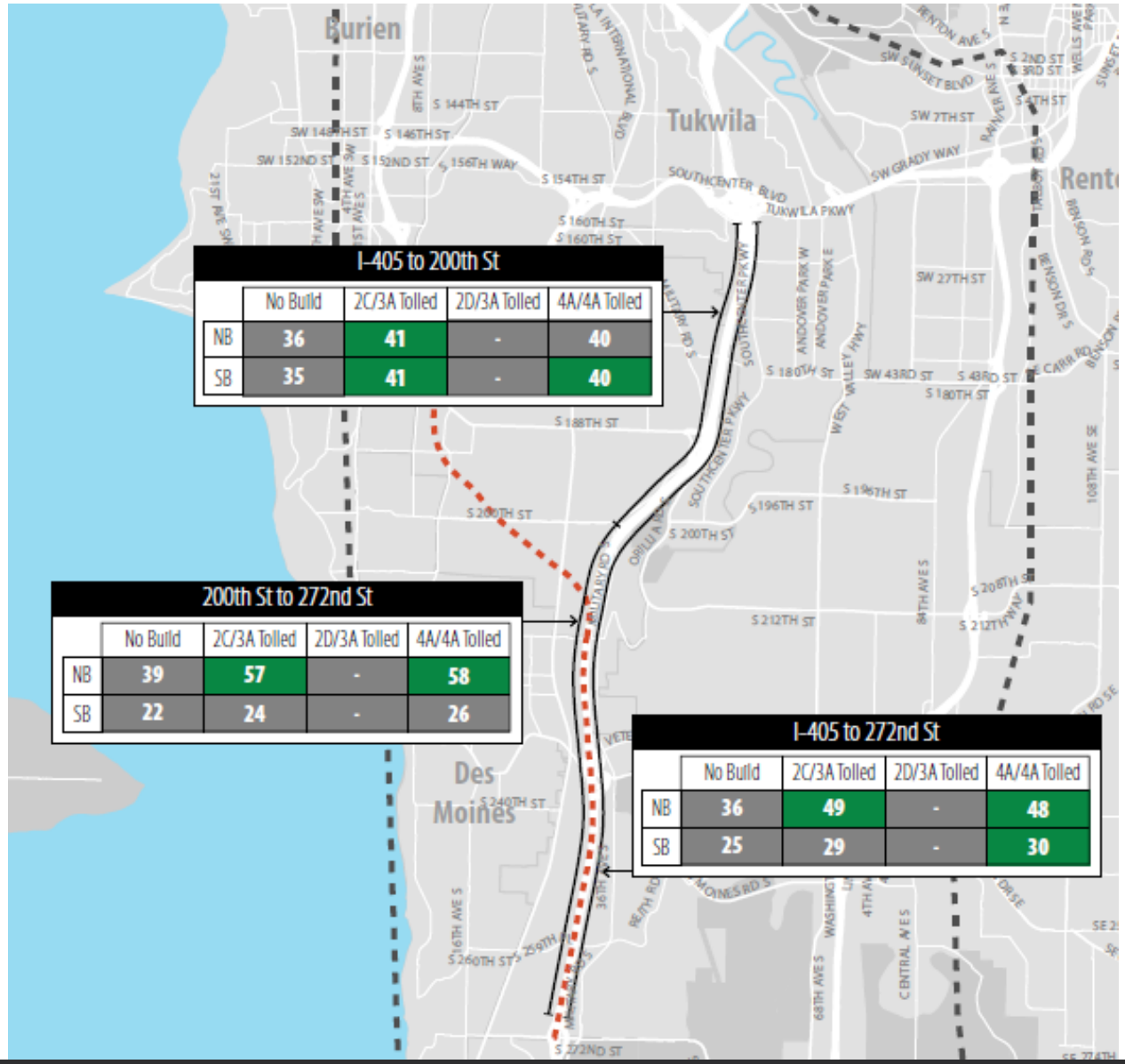
PM Peak Period Speeds: 2045



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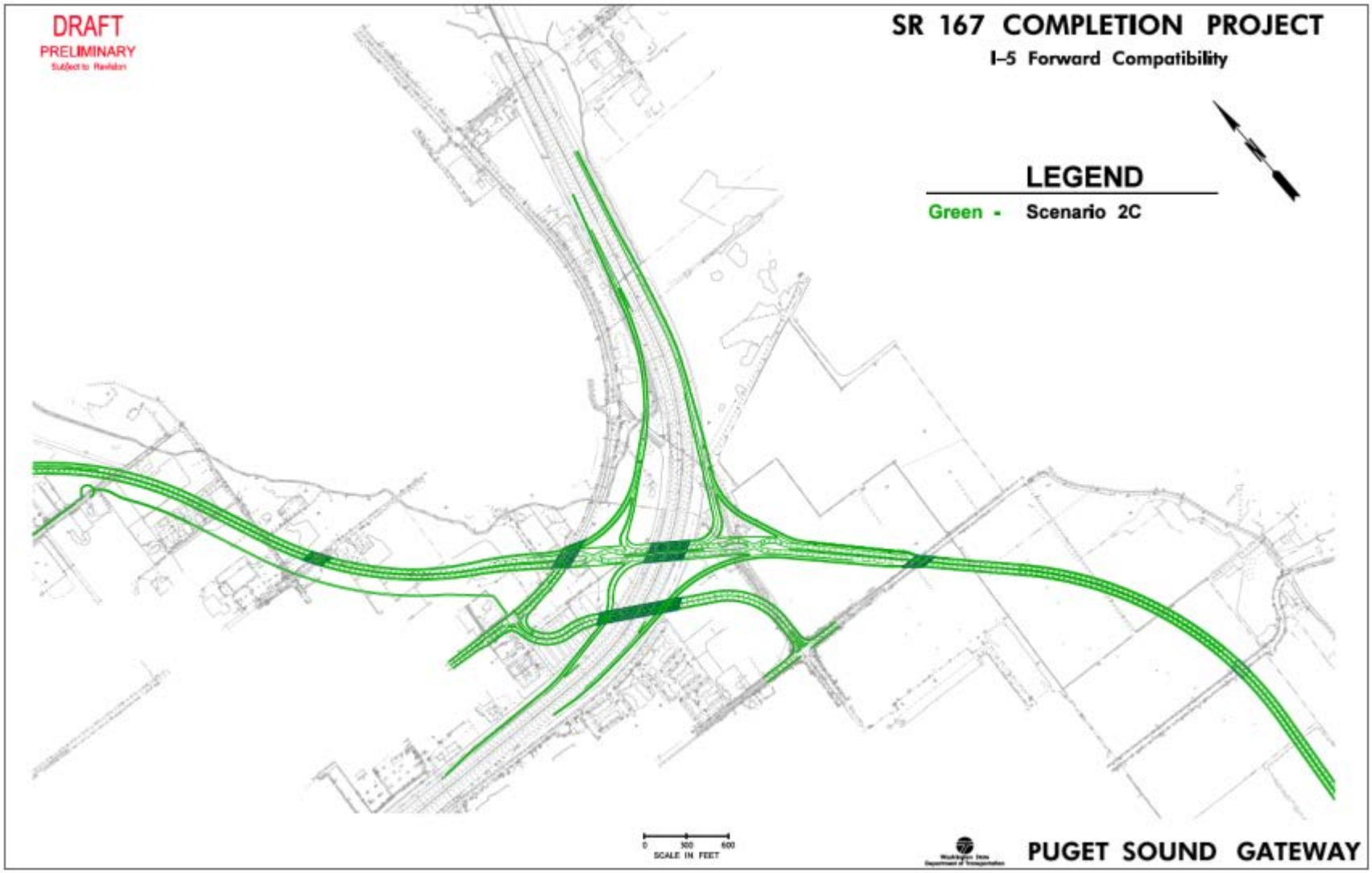
SR 167 Forward Compatibility

Forward Compatibility Considerations on SR 167

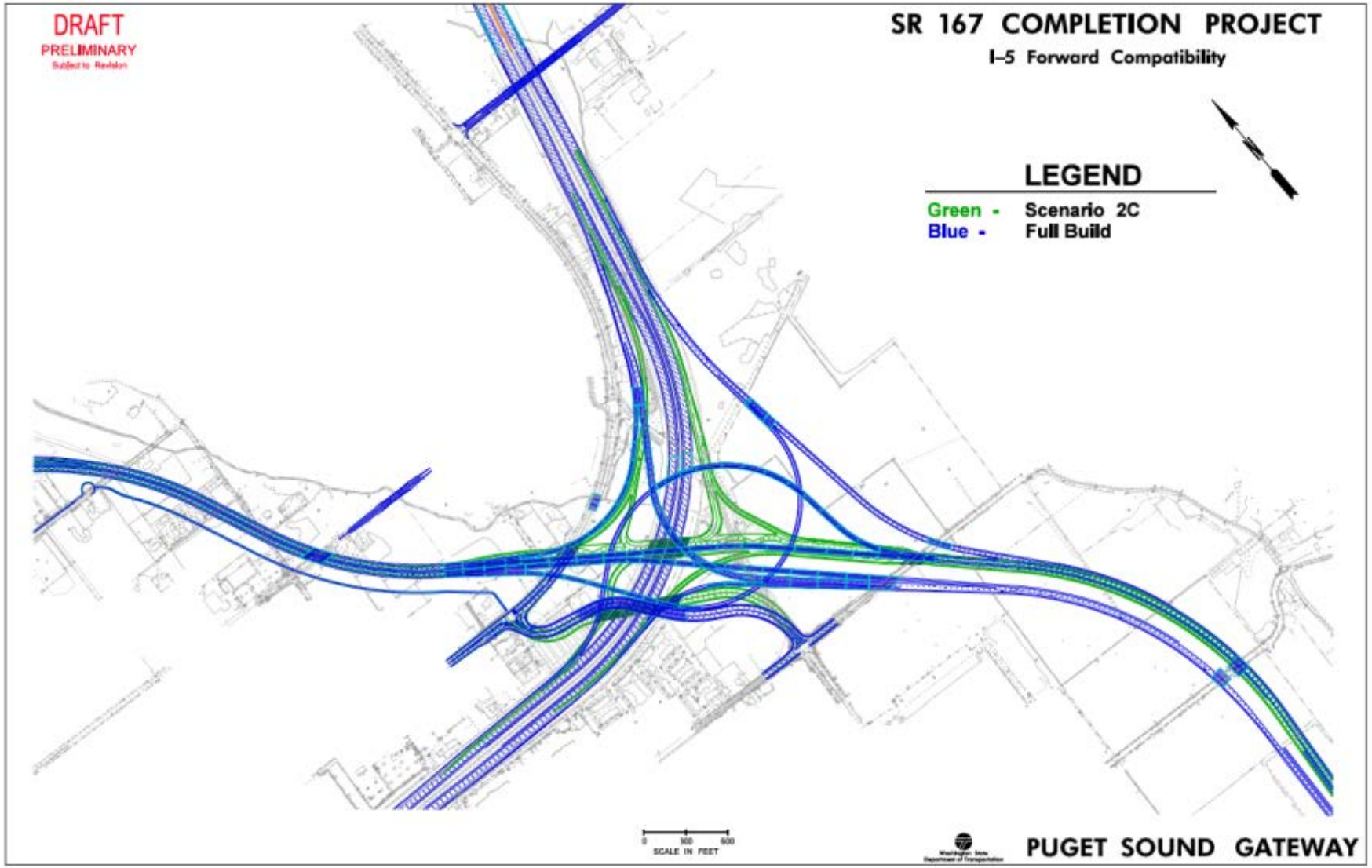
What degree of forward compatibility should be included in the design?

- At the I-5/SR 167 Interchange
- Construct initial narrower project footprint
- Plan for full build out
- Right of way acquisition for remainder of corridor

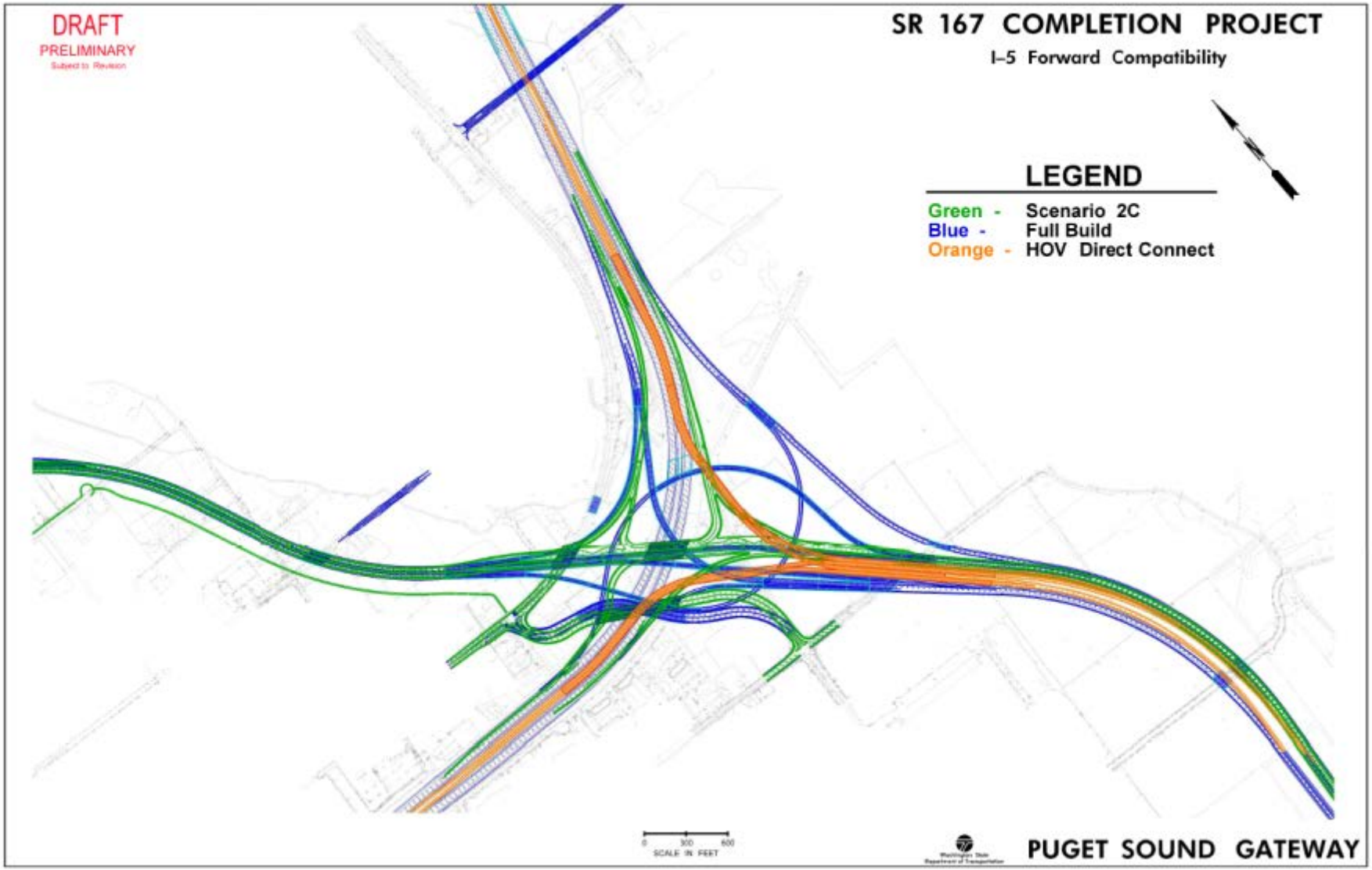
Forward Compatibility at I-5 interchange



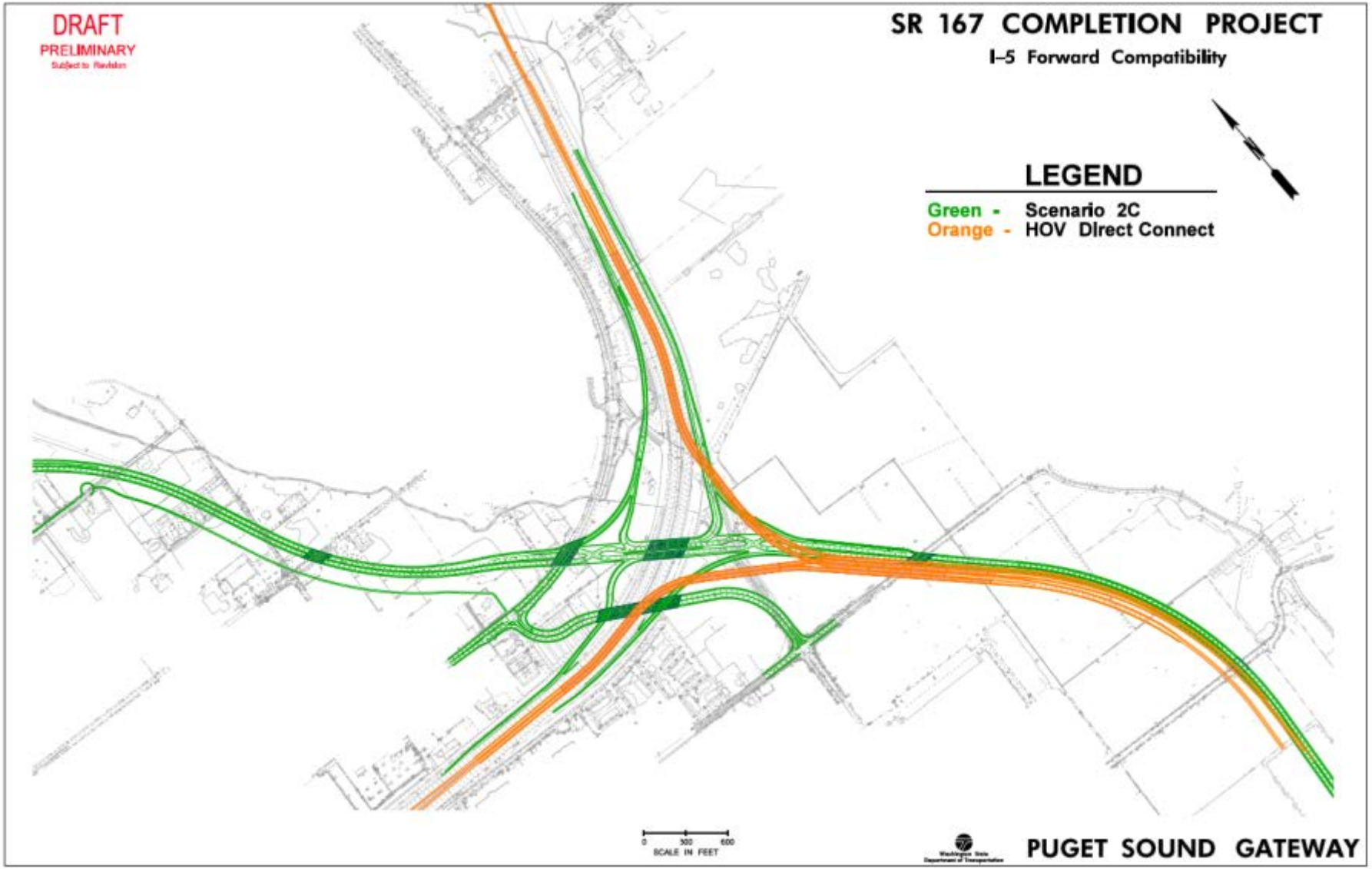
Forward Compatibility at I-5 interchange



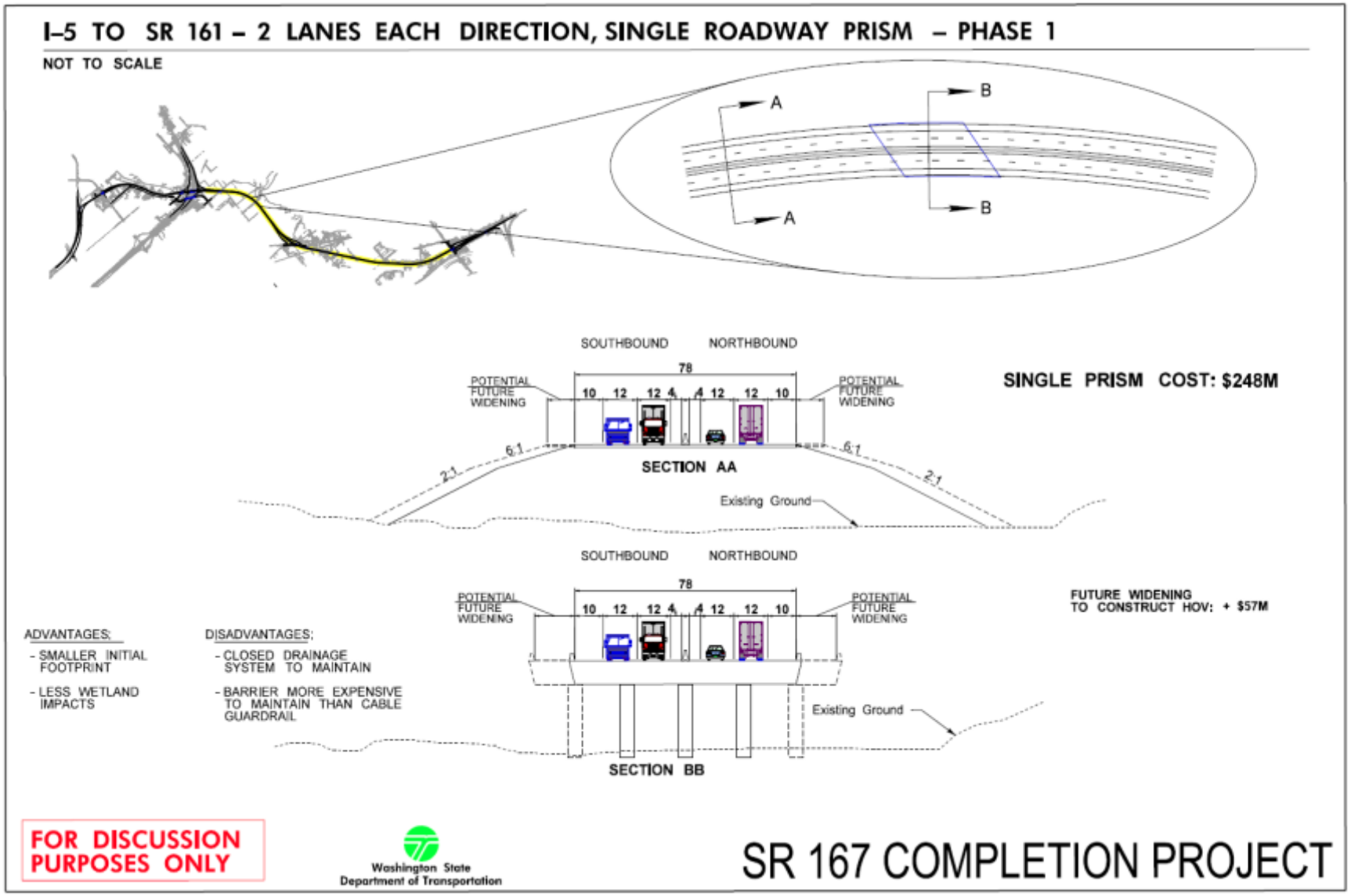
Forward Compatibility at I-5 interchange



Forward Compatibility at I-5 interchange



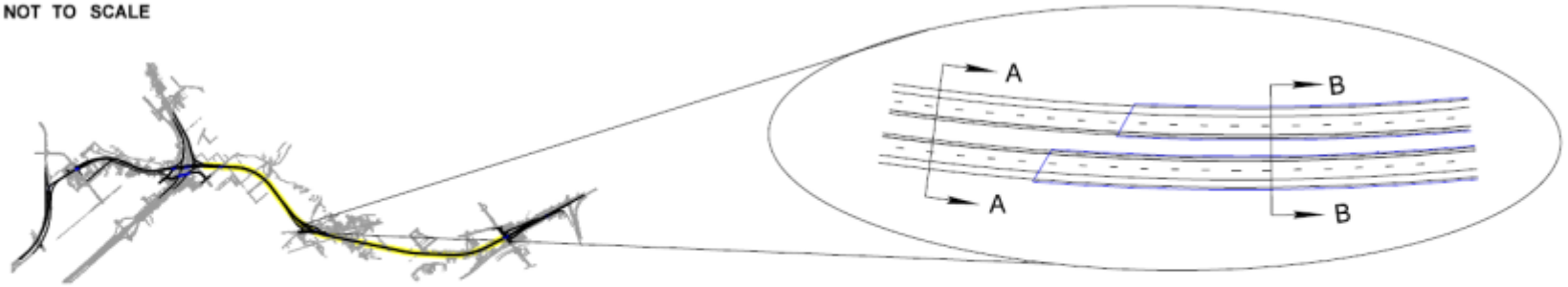
Forward Compatibility with Footprint

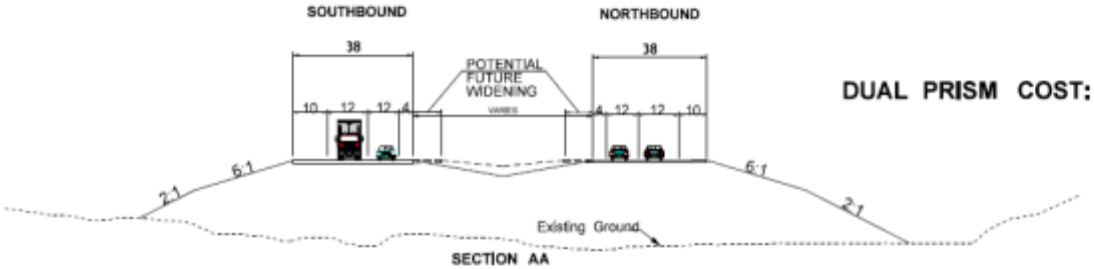


Forward Compatibility with Footprint

I–5 TO SR 161 – 2 LANES EACH DIRECTION, DUAL ROADWAY PRISM – PHASE 1

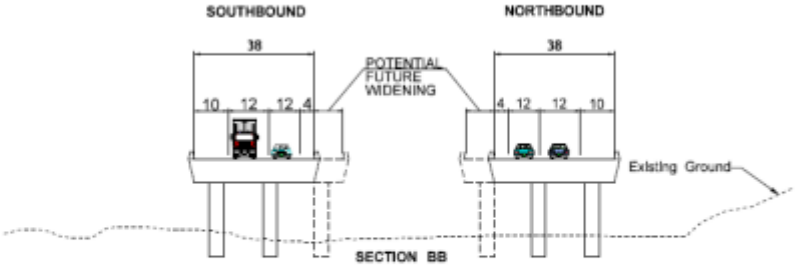
NOT TO SCALE





SECTION AA

DUAL PRISM COST: $305M



SECTION BB

FUTURE WIDENING TO CONSTRUCT HOV: + $70M

ADVANTAGES:

- NO CLOSED DRAINAGE TO MAINTAIN
- NO BARRIER TO MAINTAIN
- ABLE TO USE EMBANKMENT FOR INFILTRATION
- EASIER TO ADD HOV IN FUTURE PHASE

DISADVANTAGES:

- LARGER FOOTPRINT, HIGHER COST
- MORE WETLAND IMPACTS

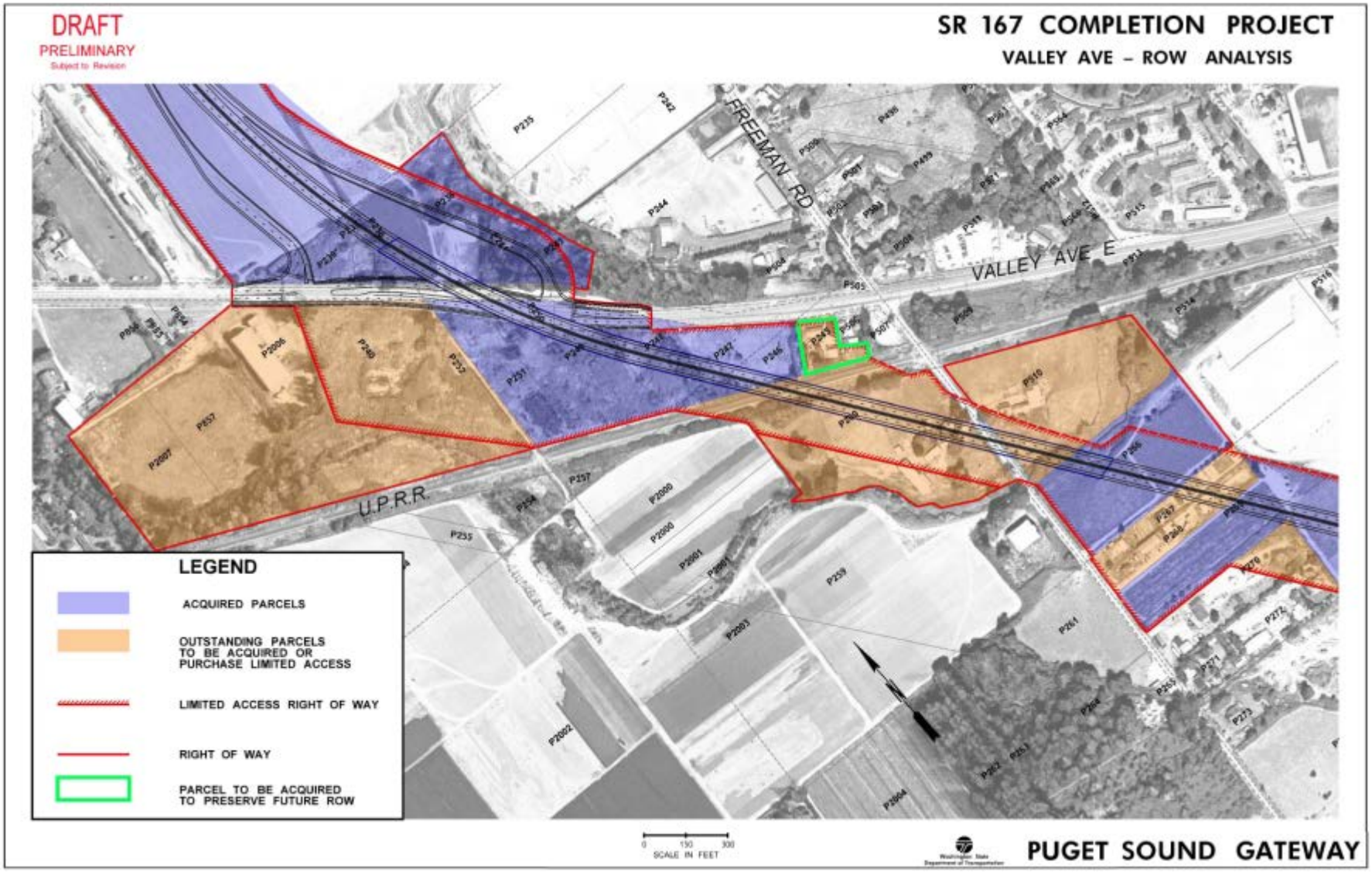
FOR DISCUSSION PURPOSES ONLY

Washington State Department of Transportation

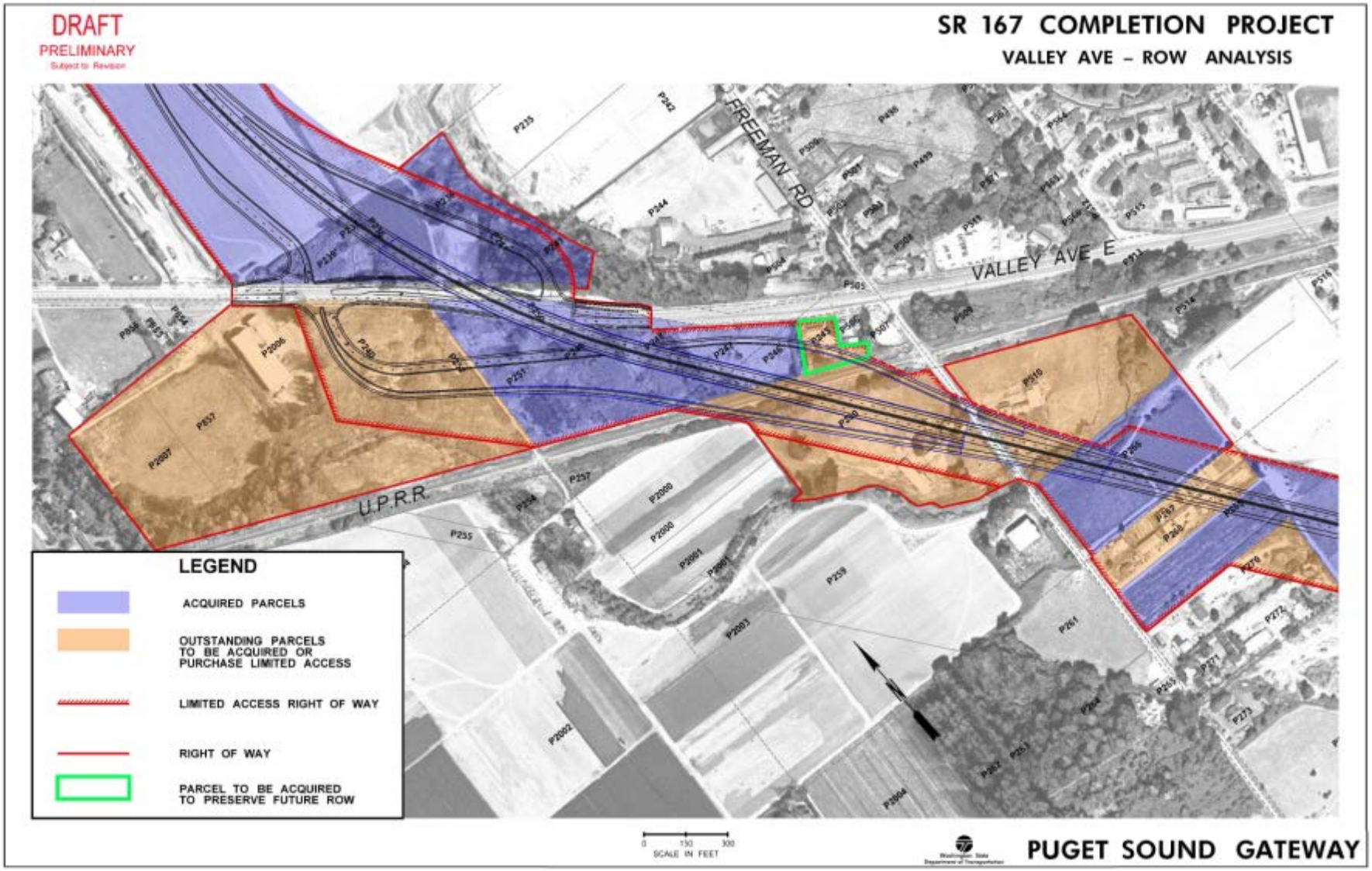
SR 167 COMPLETION PROJECT

WSDOT

Right of Way Consideration at Valley Avenue



Right of Way Consideration at Valley Avenue



SR 509 Forward Compatibility

Forward Compatibility Considerations for SR 509

Considerations for deferring forward compatible components in Phase 1:

- 2045 modeling does not show a need for 6 lanes unless other major infrastructure investments are made to I-5 and existing SR 509.
- A 6 lane facility and the connections to I-5 are roughly twice the allocated budget with risk and inflation.
- All forward compatibility components would cost an additional $28m.
- Forward compatibility was identified at a contextual need and not an essential need.

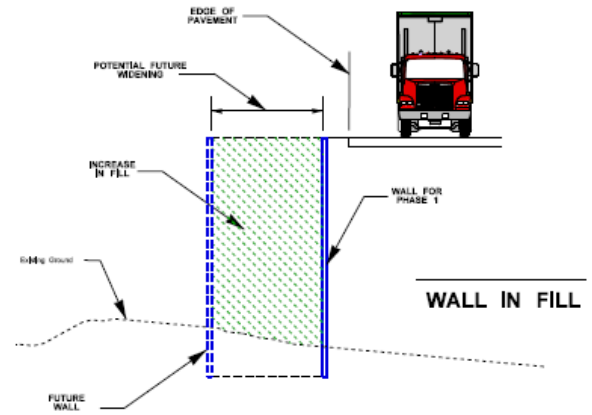
Considerations for building forward compatible components in Phase 1:

- Sound Transit is constructing FWLE in 2019 – 2022; need to construct efficiently while minimizing impacts.
- Don’t want to build infrastructure that needs to be reconstructed.
- Reconstructing some elements may have significant traffic impacts in the future.

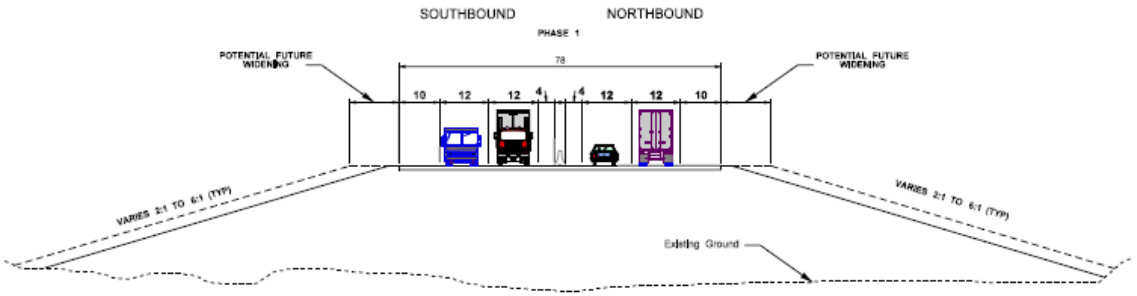
Forward Compatibility Considerations: SR 509 Single Roadway Prism

SR 509: 2 LANES EACH DIRECTION, SINGLE ROADWAY PRISM

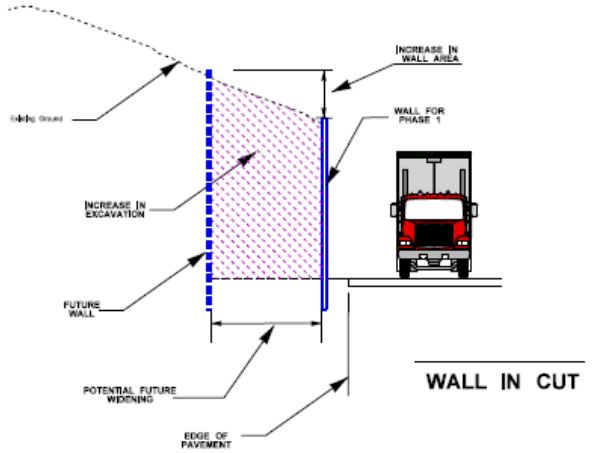
NOT TO SCALE



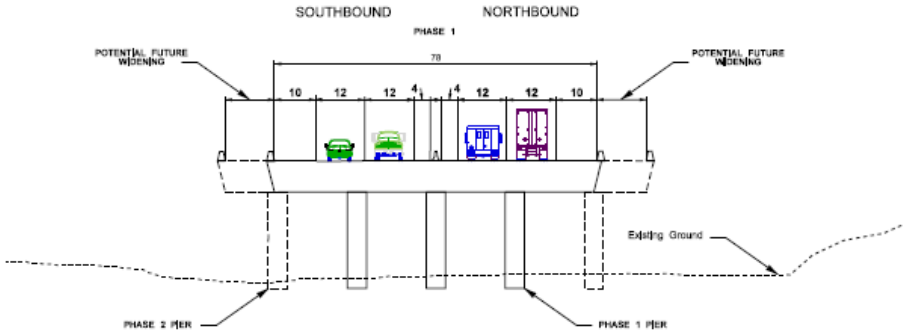
WALL IN FILL



EMBANKMENT SECTION

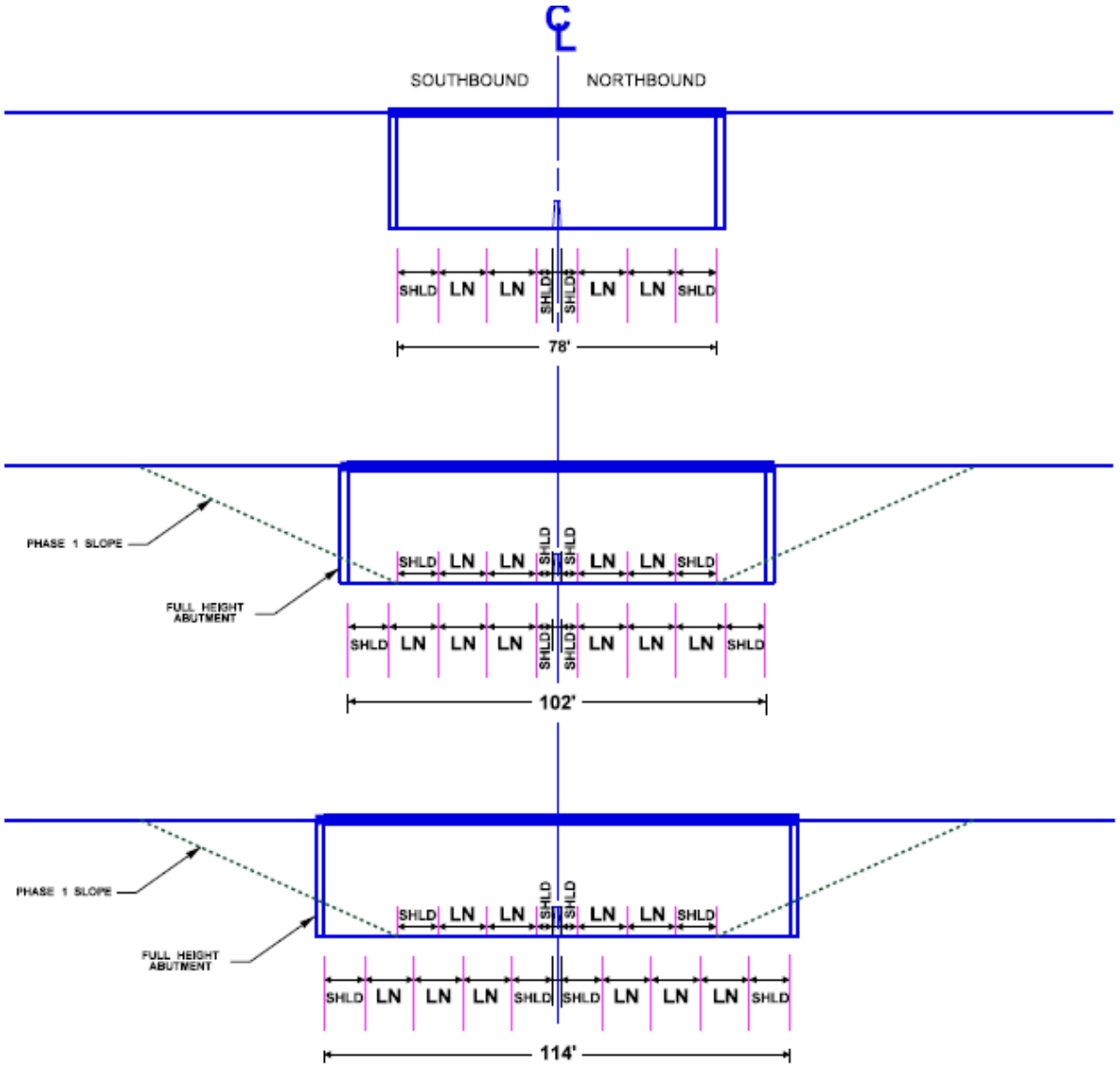


WALL IN CUT



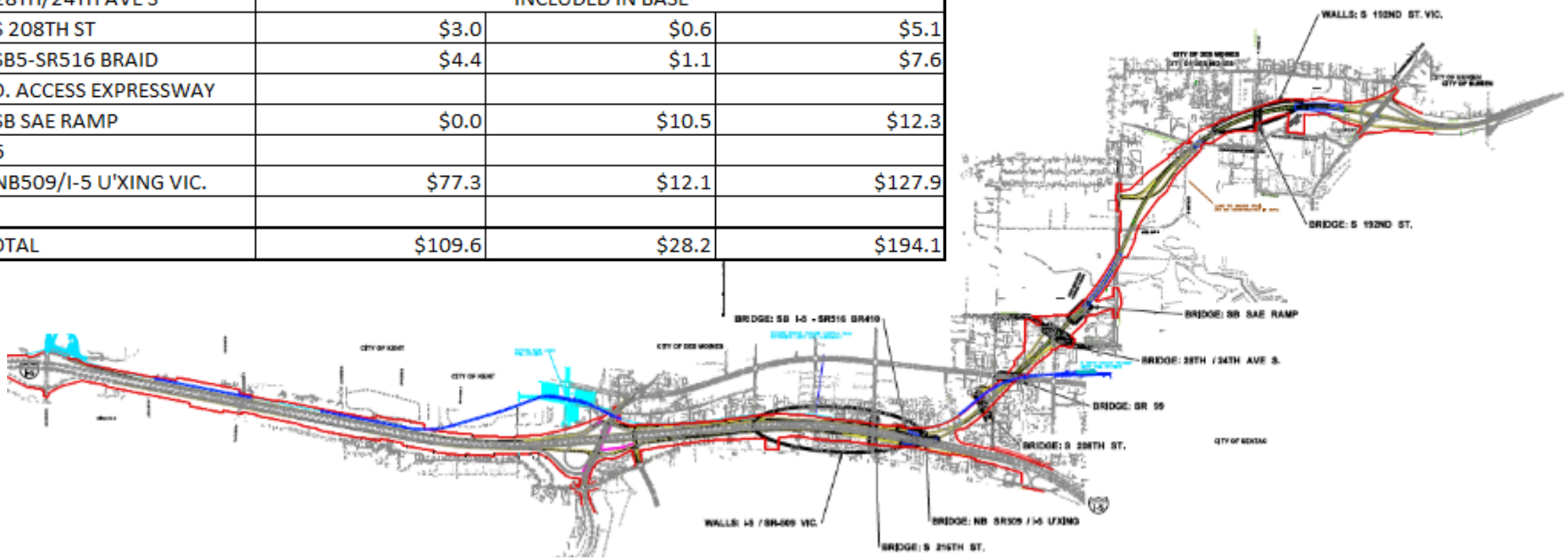
BRIDGE SECTION

Forward Compatibility Considerations: SR 509 Section at Undercrossing

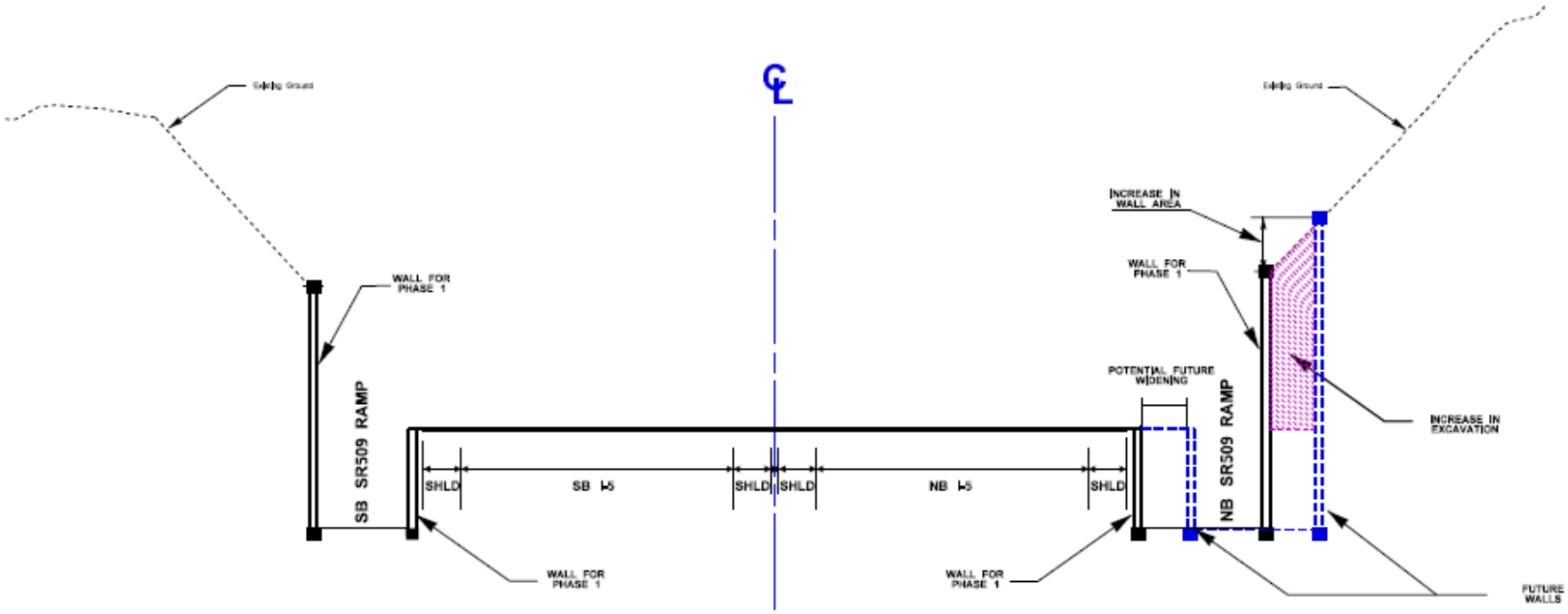


Forward Compatibility Considerations Locations:

FORWARD COMPATIBILITY COSTS - SR 509			
LOCATION	COSTS (MILLIONS)		
	BASE (YOE$)	FORWARD COMPAT. (YOE$)	FUTURE RECONST. (2035$)
SOUND TRANSIT COMPATIBILITY			
SR 99	$8.9	$1.7	$15.3
S 216TH ST	$6.9	$0.6	$11.0
WEST SIDE WALL-216TH	COORDINATING WITH SOUND TRANSIT		
SR 509			
S. 192ND ST.	$9.1	$1.6	$14.9
28TH/24TH AVE S	INCLUDED IN BASE		
S 208TH ST	$3.0	$0.6	$5.1
SB5-SR516 BRAID	$4.4	$1.1	$7.6
SO. ACCESS EXPRESSWAY			
SB SAE RAMP	$0.0	$10.5	$12.3
I-5			
NB509/I-5 U'XING VIC.	$77.3	$12.1	$127.9
TOTAL	$109.6	$28.2	$194.1



Forward Compatibility Considerations: I-5



I-5 / SR 509
INTERCHANGE
NORTH OF S 216TH ST.

Forward Compatibility Cost Considerations

FORWARD COMPATIBILITY COSTS - SR 509			
LOCATION	COSTS (MILLIONS)		
	BASE (YOE$)	FORWARD COMPAT. (YOE$)	FUTURE RECONST. (2035$)
SOUND TRANSIT COMPATIBILITY			
SR 99	$8.9	$1.7	$15.3
S 216TH ST	$6.9	$0.6	$11.0
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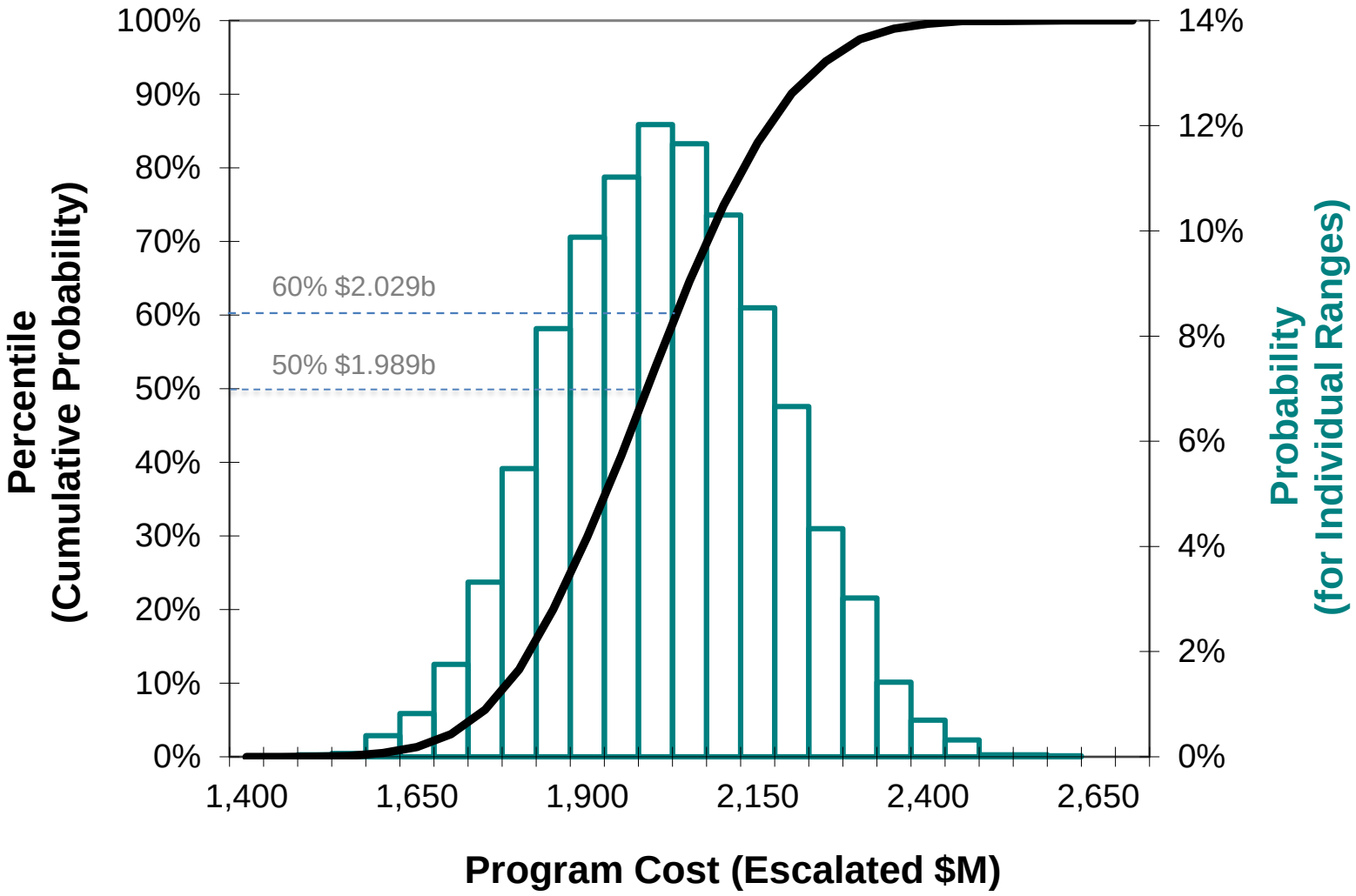
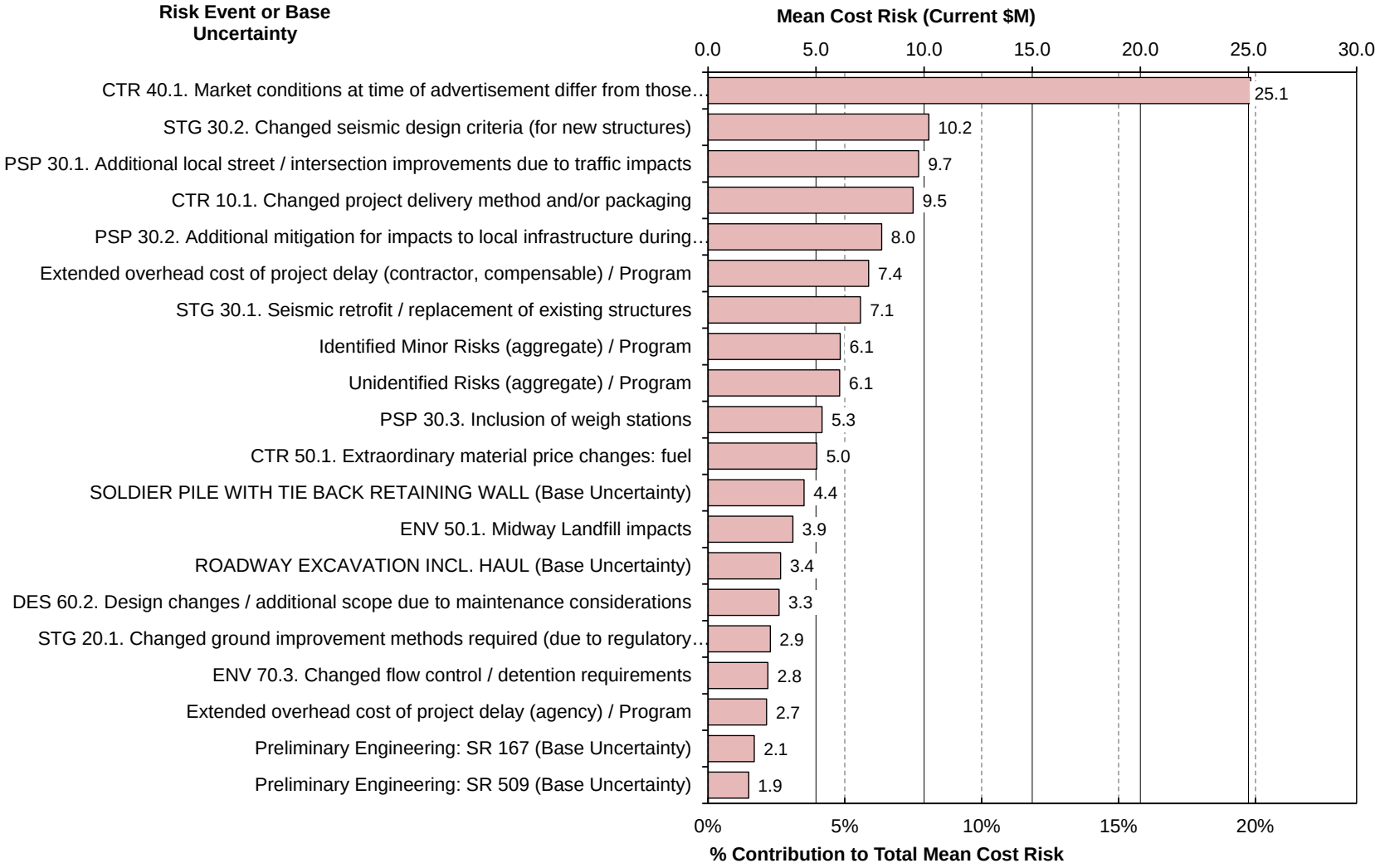
SB SAE RAMP	$0.0	$10.5	$12.3
I-5			
NB509/I-5 U'XING VIC.	$77.3	$12.1	$127.9
TOTAL	$109.6	$28.2	$194.1

Updated Cost Estimates (CEVP)

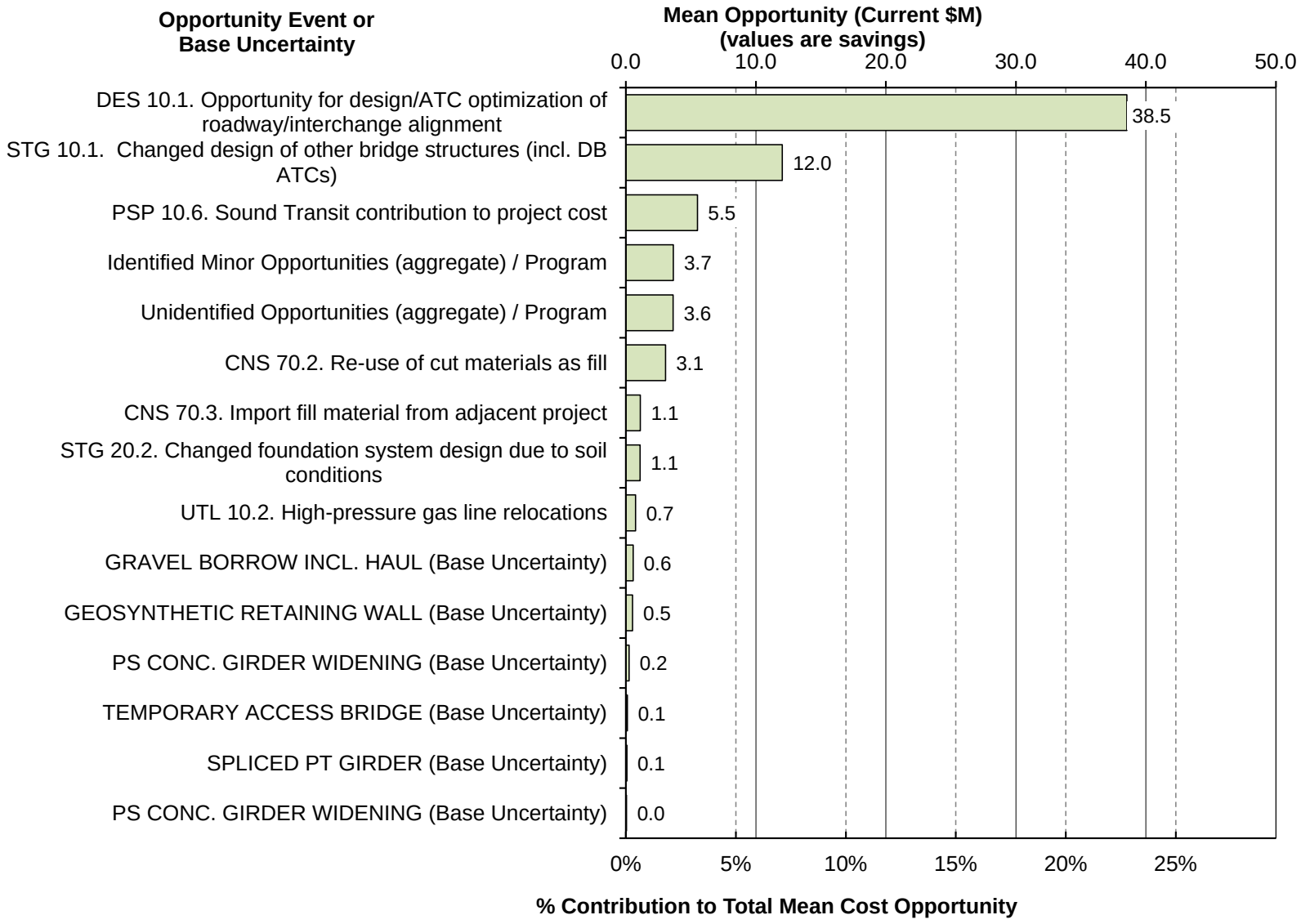
Program Cost Results: 2C/3A



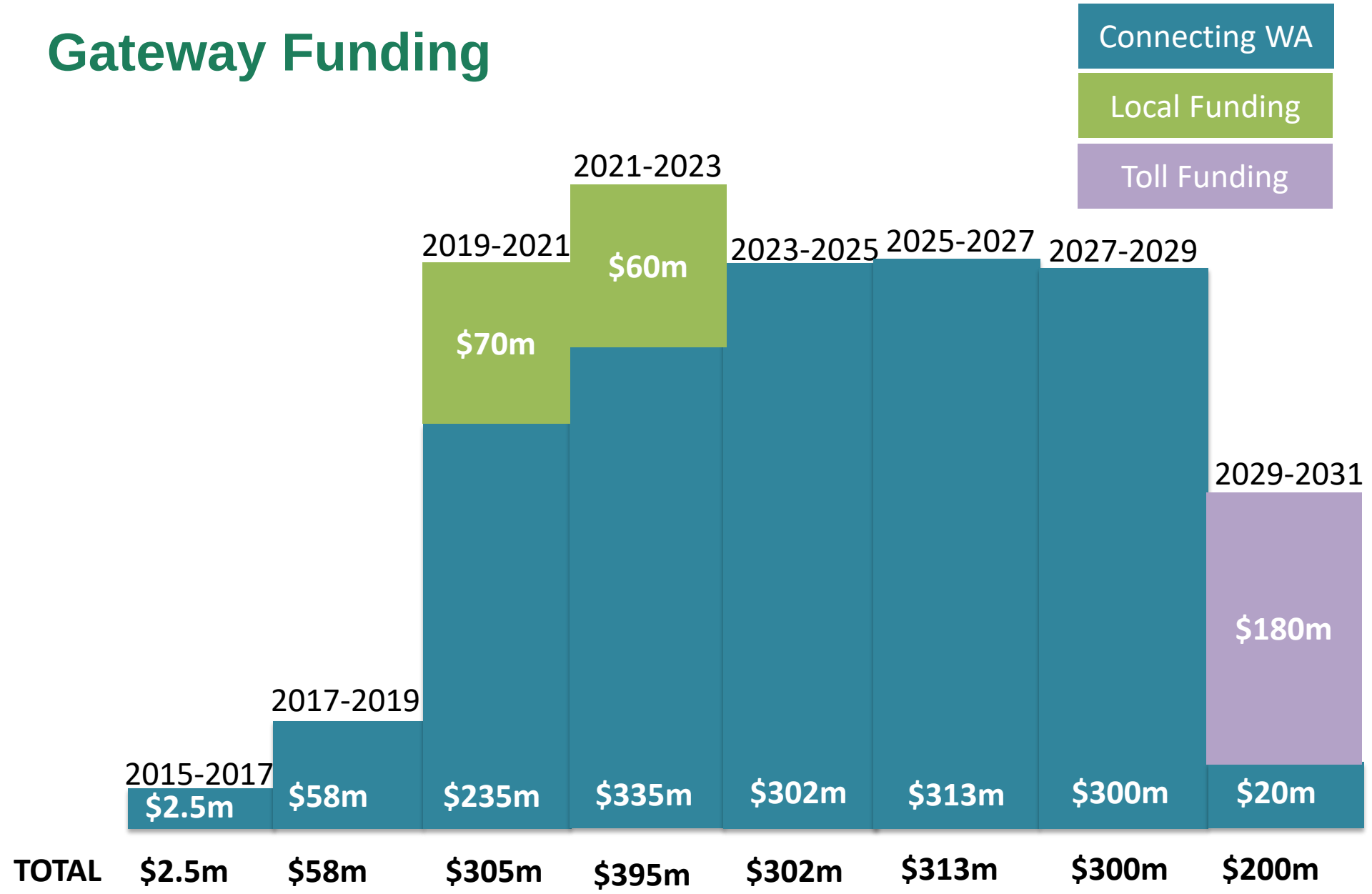
Program Cost Threats



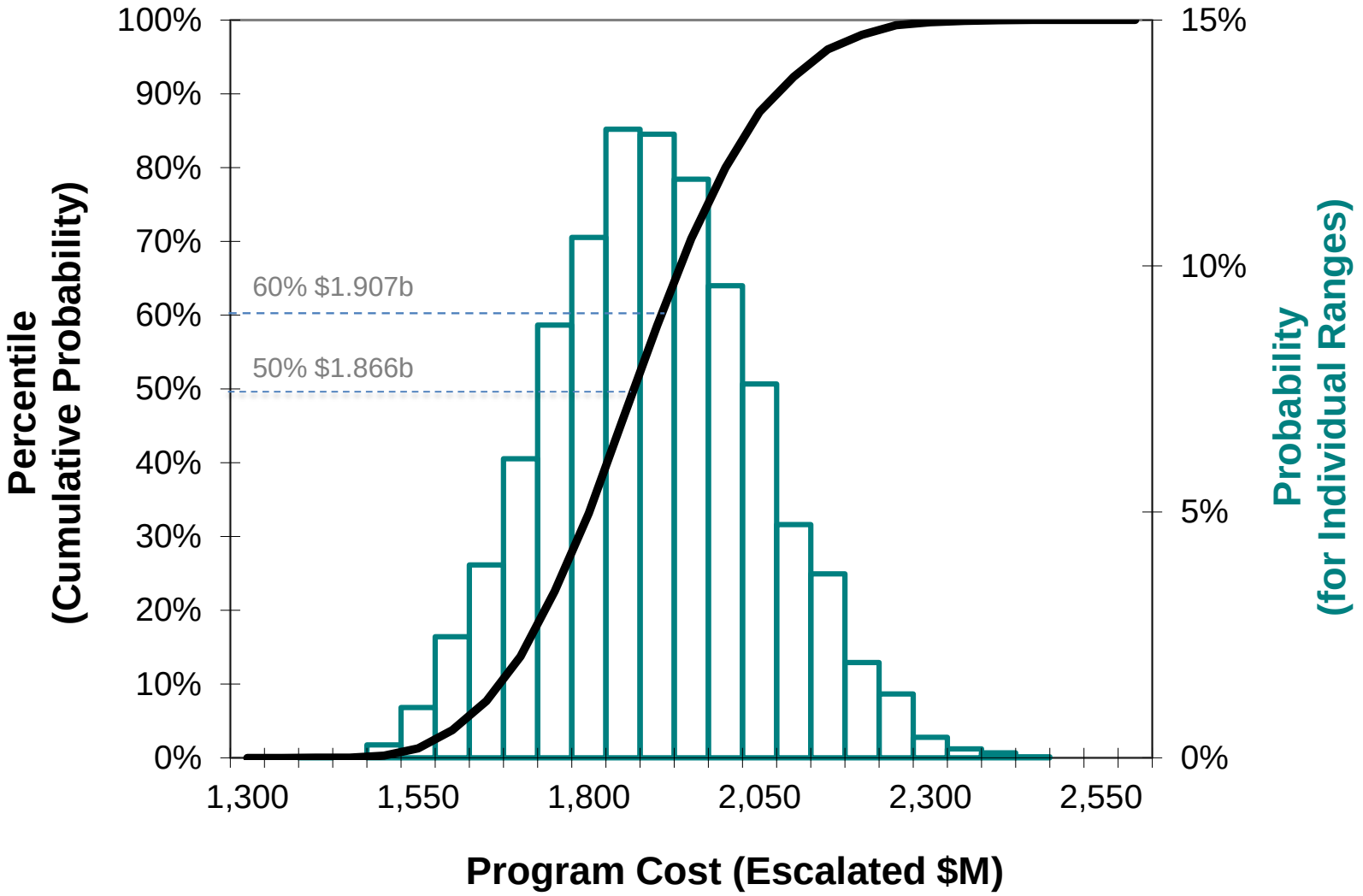
Program Cost Opportunities



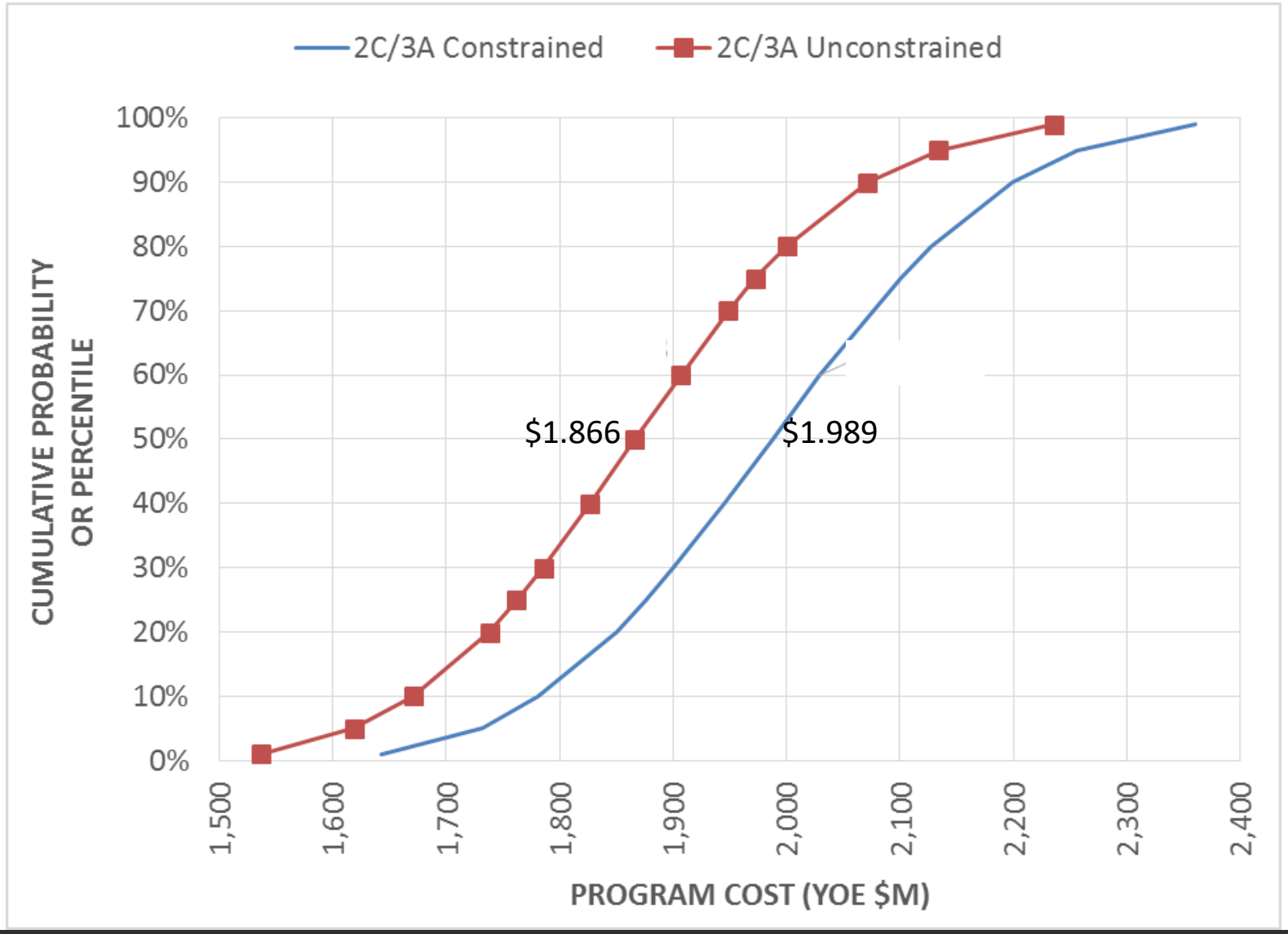
Gateway Funding



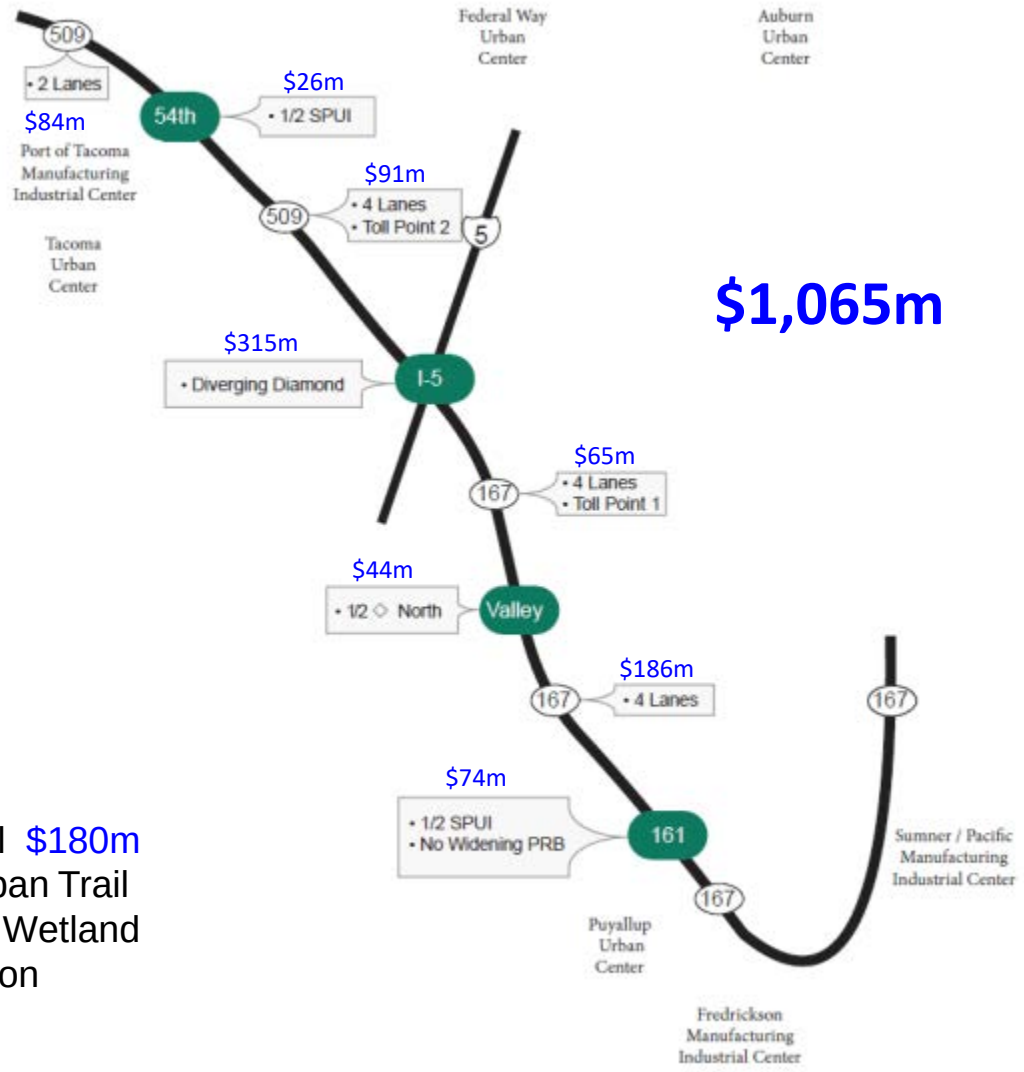
Program Cost Results: 2C/3A Unconstrained



Program Cost Comparison: Constrained vs. Unconstrained



SR 167: Scenario 2C

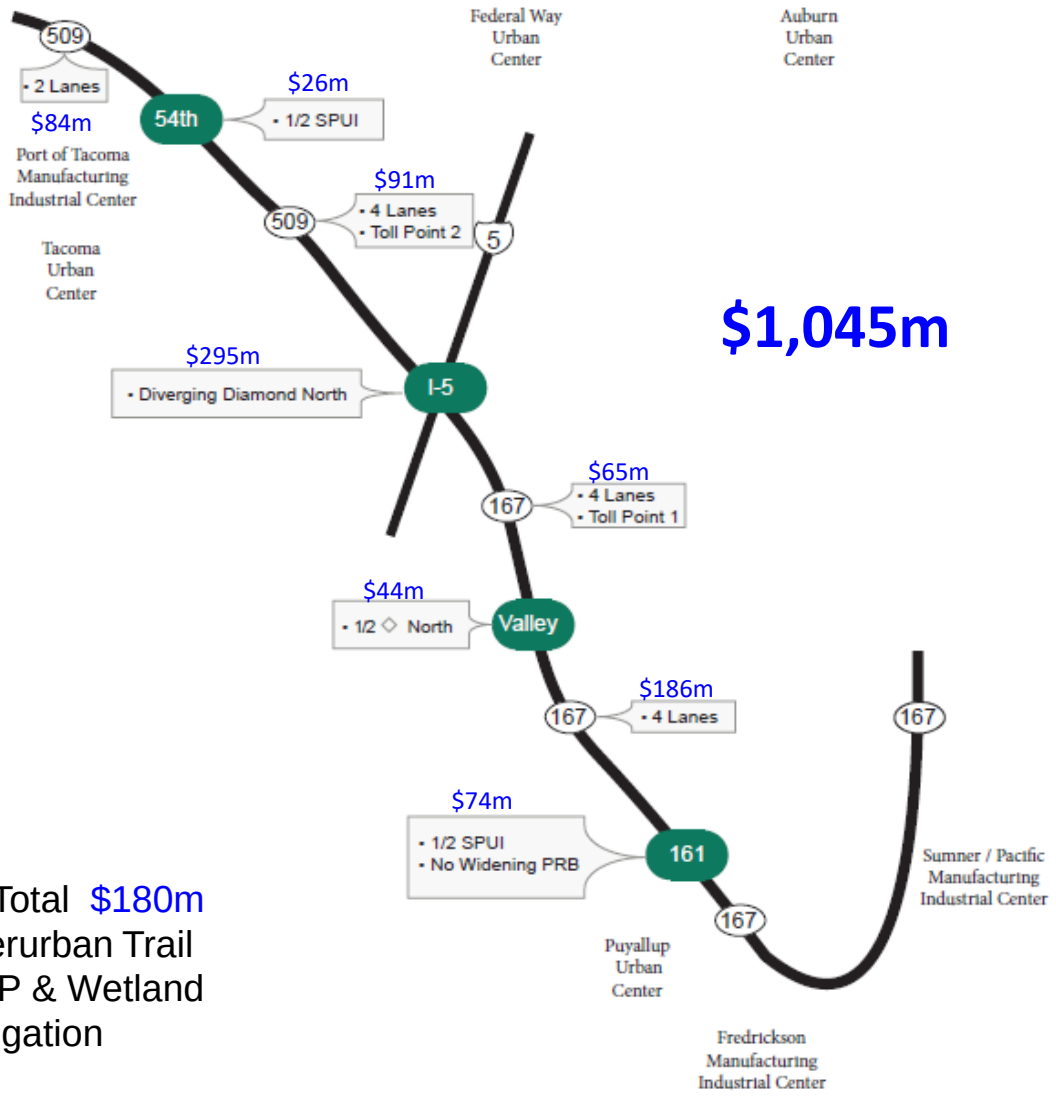


$1,065m

Other Items Total $180m

- Interurban Trail
- RRP & Wetland Mitigation

SR 167:
Scenario 2D

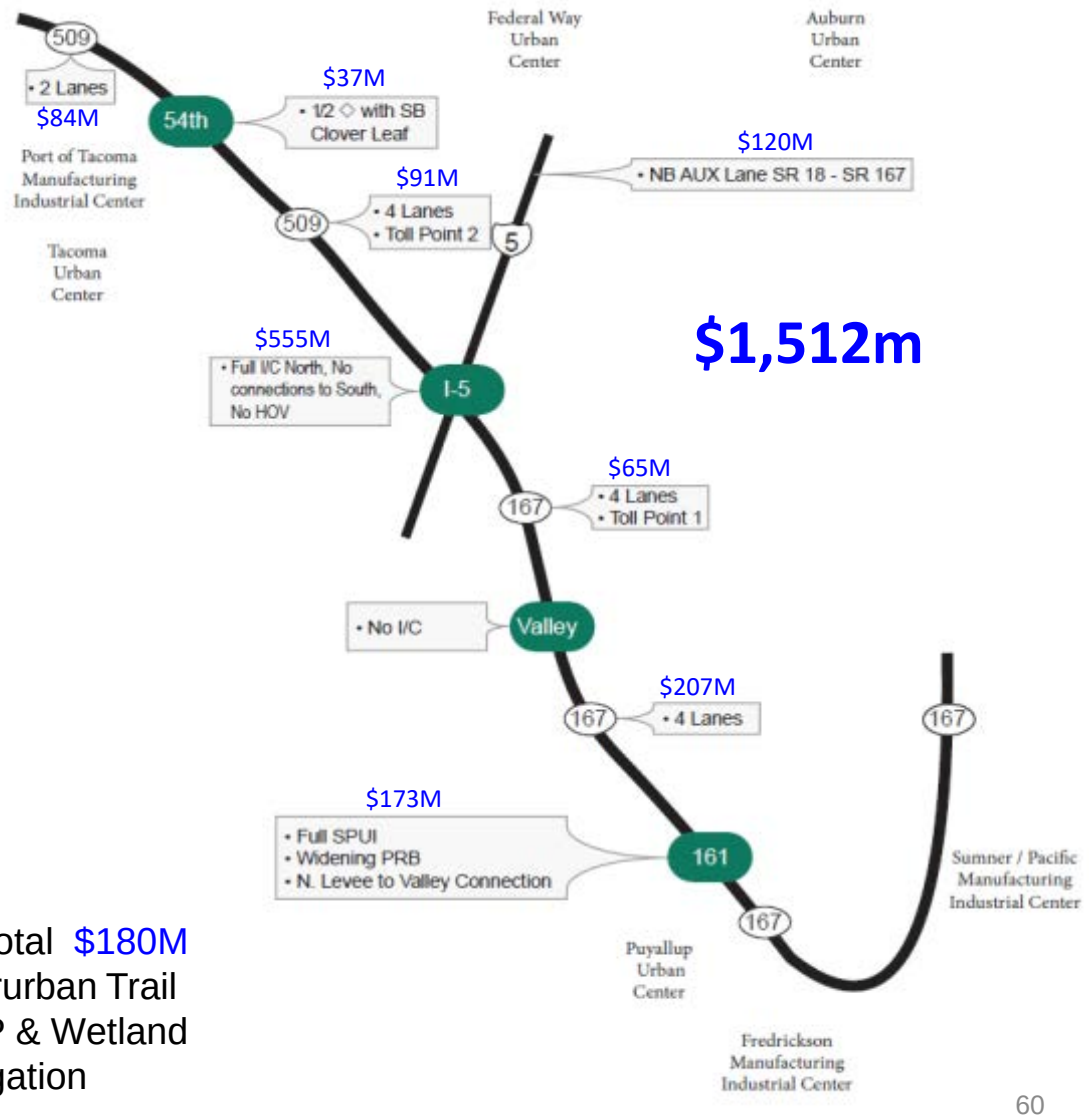


$1,045m

Other Items Total $180m

- Interurban Trail
- RRP & Wetland Mitigation

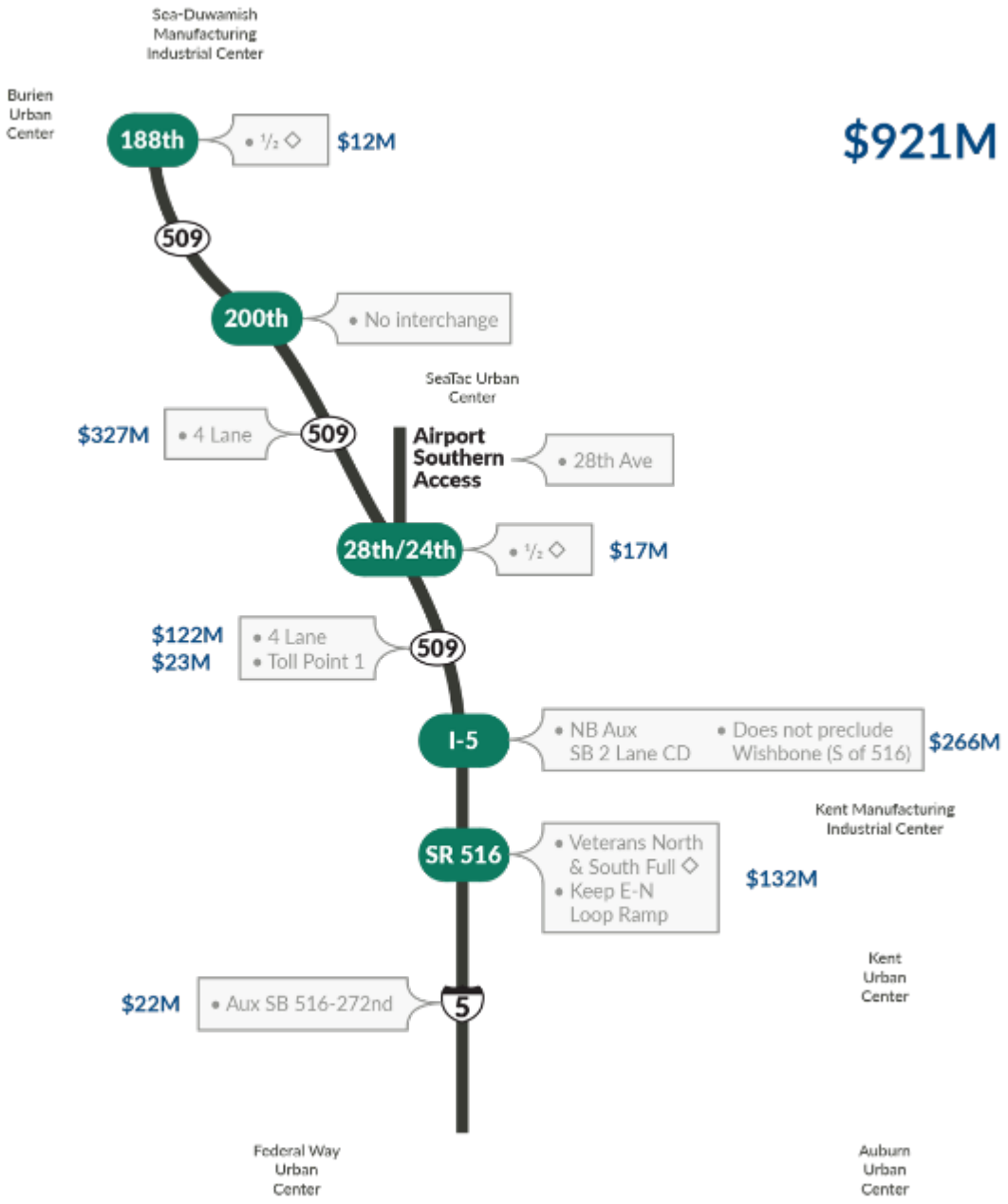
SR 167: Scenario 4A



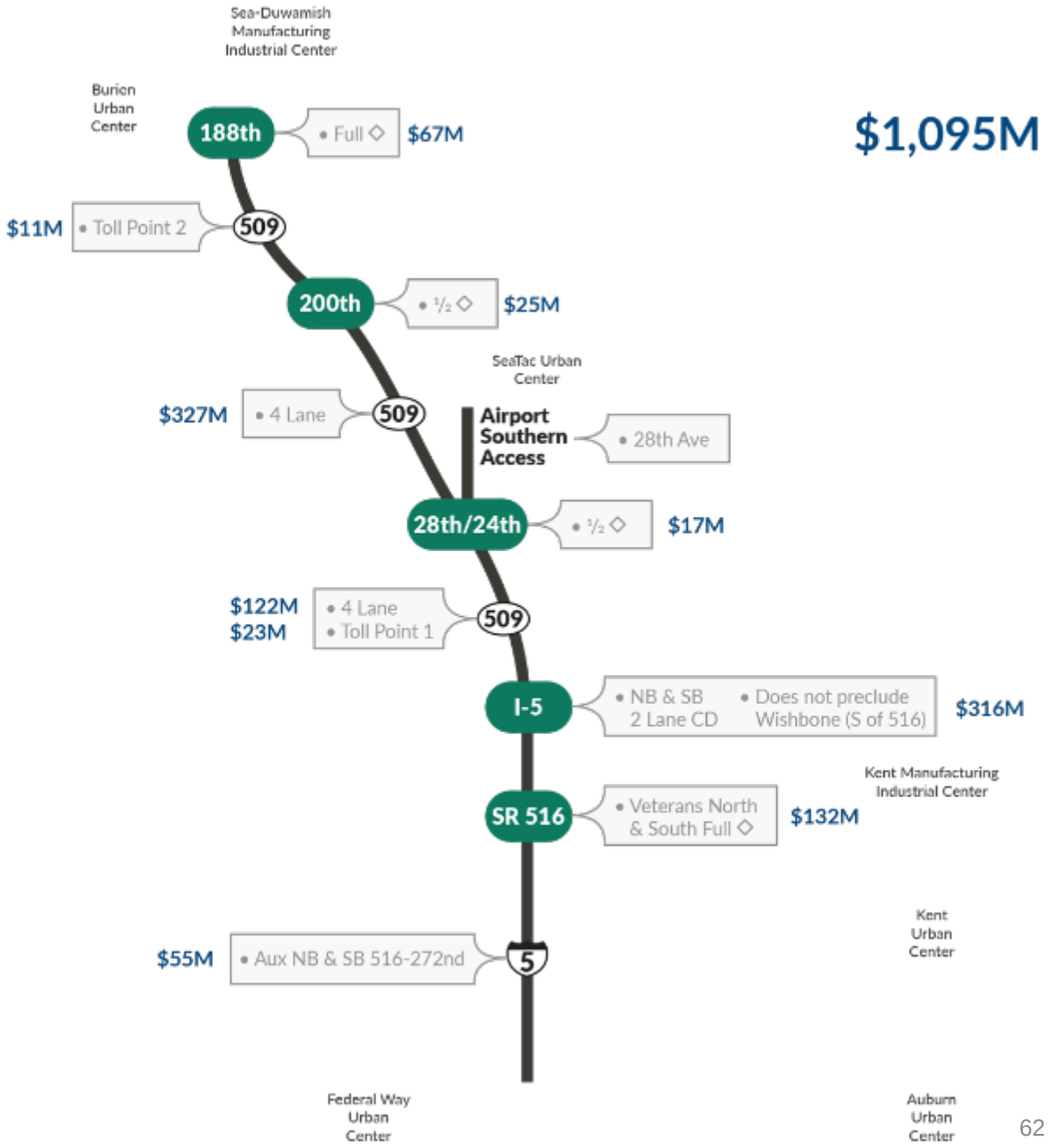
Other Items Total $180M

- Interurban Trail
- RRP & Wetland Mitigation

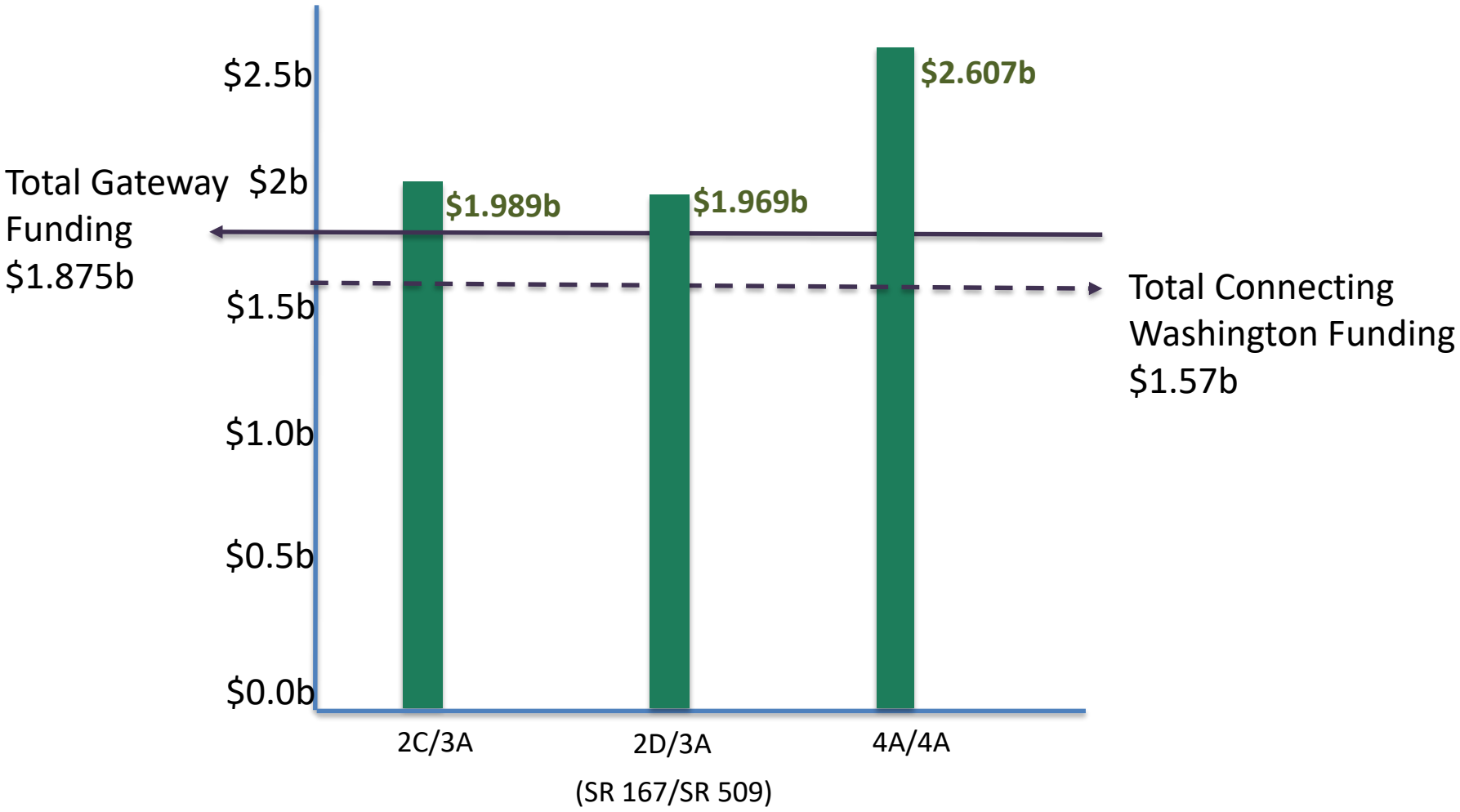
SR 509: Scenario 3A



SR 509: Scenario 4A

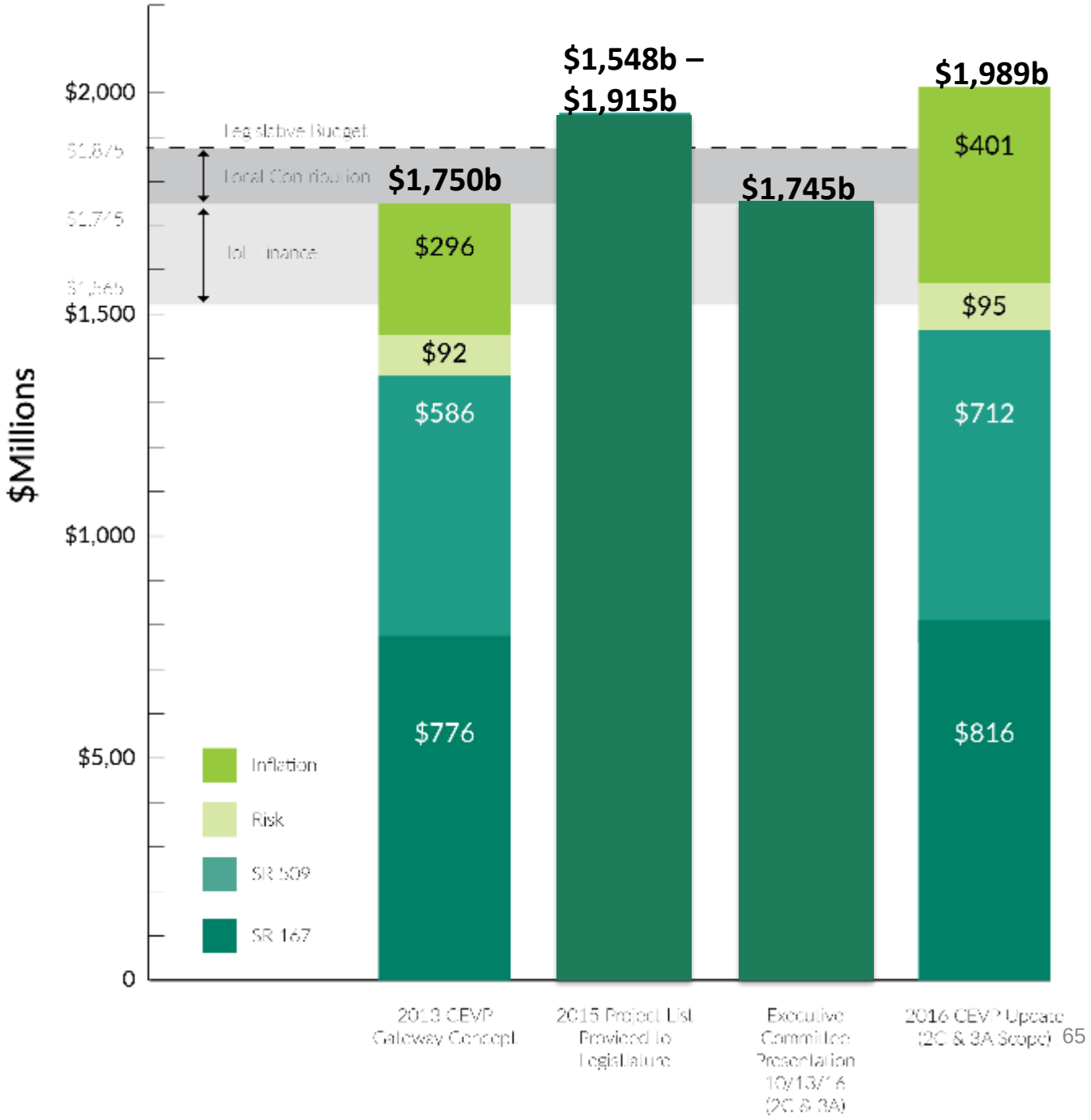


CEVP Cost Estimates



CEVP Cost Estimates with Additional Project Elements

Cost Review


$Millions
$2,000
$1,500
$1,000
$5,00
0
$1,750b
$1,548b – $1,915b
$1,745b
$1,989b
$296
$92
$586
$776
$401
$95
$712
$816
Inflation
Risk
SR 509
SR 167
2013 CEVP Gateway Concept
2015 Project List Provided to Legislature
Executive Committee Presentation 10/13/16 (2C & 3A)
2016 CEVP Update (2C & 3A Scope)

FASTLANE Grant Update

FASTLANE Grant Application

- New Federal grant program focused on freight projects
- $4.5B program through 2020
- $800M awarded in FFY 2016 to 18 Recipients
  (212 applications received totaling almost $10B)
  - South Lander Street Grade Separation (Seattle) - $45M of $140M
  - Strander Boulevard Extension (Tukwila) - $5M of $38M
- $850M Notice of Funding Opportunity for FFY 2017 announced on Oct 28th, with applications due Dec 15th
- Grant pursuit: Letters of Support from partners and stakeholders

FASTLANE Grant Application – Letters of Support

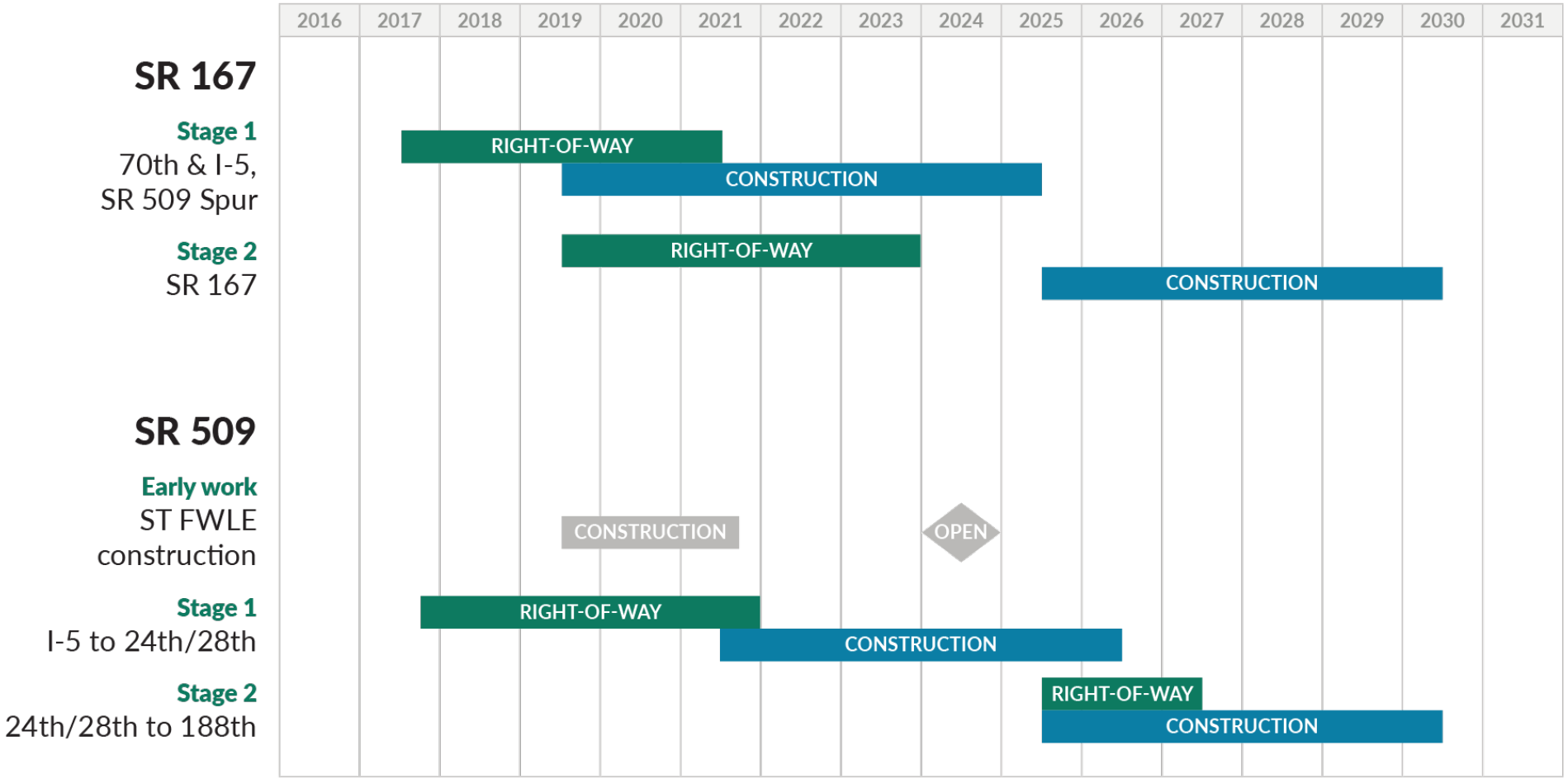
- Governor Jay Inslee
- City of Des Moines
- IBEW Local 76
- Kent Chamber of Commerce
- Northwest Seaport Alliance
- Premier Transport
- Puget Sound Regional Council
- Puyallup Tribe of Indians
- Puyallup/Sumner Chamber of Commerce
- City of Puyallup
- South County Area Transportation Board (SCATBd)
- Port of Tacoma
- Washington State Transportation Commission
- Washington Trucking Association
- City of Burien (pending)
- City of Fife (pending)
- FIMSIB (pending)
- City of Kent (pending)
- Port of Seattle (pending)

2016 FASTLANE Grants

State	Project	Project Size	Grant Amount	Project Cost	Share
VA	Atlantic Gateway	Large	$165M	$905M	18%
DC	Arlington Memorial Bridge	Large	$95M	$166M	54%
OK	US 69/75 Bryan County	Large	$62M	$120.6M	51%
LA	I-10 Freight CoRE	Large	$60M	$193.5M	31%
AZ	Interstate 10	Large	$54M	$157.5M	35%
CA	SR 11 Segment 2 & SB Connectors	Large	$49M	$172.2M	29%
WA	**South Lander St**	**Large**	**$45M**	**$140M**	**32%**
GA	Port of Savannah	Large	$44M	$126.7M	35%
MA	Conley Terminal Intermodal Imp.	Large	$42M	$102.9M	41%
WI	I-39/90 Corridor	Large	$32M	$1,195.3M	3%
NY	I-390/I-490/Rt. 31 Interchange	Large	$32M	$162.9M	20%
WA	**Strander Blvd Ext & Grade Separation**	**Small**	**$5m**	**$38M**	**13%**
Total for 18 FASTLANE Projects			**$759.2M**	**$3,612.4M**	**21%**

Note: Does not show 6 smaller projects that received grants

Preliminary Gateway Construction Staging



Preliminary Preferred Scenario

SR 167 Performance Evaluation Results

Performance Category	Baseline Performance Metrics															Contextual Performance Metrics									Cost
	Mobility													Economic Vitality	Safety	Safety	Active Mobility				Env't	Other			
Mode	Auto / Freight	HOV / Bus	Auto / Freight	HOV/Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus		Auto / Freight	HOV / Bus				Ped	Bike	Ped	Bike					
Performance METRIC	**SR 167 Performance** Maintain or Improve SR 167 Operations between SR 161 and I-5		**SR 509 Spur Performance** Maintain or Improve SR 509 Spur Operations between I-5 and SR 509		**I-5 Performance** Maintain or Improve I-5 Operations between I-705 and SR 18		**Travel Time** Reduce travel time between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		**Travel Time Reliability** Improve travel time reliability between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		**Complete Freeway Network / Redundancy Achieved**	**Delay** Reduce hours of delay in subarea network		**Economic Benefit** Improve economic vitality	**Local and Regional Comprehensive Plan** Support local and regional comprehensive land use planning and development	**Safety** # of Serious Injury and Fatal Crashes (I-5 & SR 167 & SR 509)	**Safety** # of Serious injury and fatal crashes on local arterials	**Number and location of Crossings** Reduce Pedestrian vehicle exposure by reducing traffic volumes		**Continuity and Consistency of Pedestrian facility** Improve Pedestrian & Bicycle continuity along new corridor		**Sensitive Area Impact** Reduce area of impact to sensitive areas	**Forward Compatibility**	**Right of Way Impact** Reduce Right of Way Impact	**Compatibility** With Transit Long Range Plans	
SCENARIO																									
No Build																									
Scenario 2C: Full Connectivity at I-5 with Split Diamond at Valley and Meridian	◕	◕	◕	◕	◑	◑	●	●	●	●	◕	●	●	◕	◕	◑	◕	◕	◕	◕	◕	◕	◔	◕	◕	$1,065M
Scenario 2D: Limited Connectivity at I-5 with Split Diamond at Valley & Meridian	◕	◕	◕	◕	◑	◑	●	●	●	●	◑	●	●	◕	◑	◑	◑	◑	◑	◑	◑	◑	◑	◕	◑	$1,045M
Scenario 4A: Moderate Connectivity at I-5 w/Full Meridian Connectivity	◕	◕	◕	◕	◕	◕	●	●	●	●	◑	●	●	◑	◑	◕	◑	◑	◑	◑	◑	◑	●	◑	◕	$1,512M

SR 509 Performance Evaluation Results

Scenario Comparison Table - SR 509 Completion Project

Date: 12/07/16

Performance Category	Essential Performance Metrics											Contextual Performance Metrics							Cost
	Mobility								Economic Vitality		Safety	Safety	Mobility				Env't	Other	
Mode	Auto / Freight	HOV / BUS	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit	Freight / Auto / Transit							Ped	Bic & Bike			
Performance METRIC / SCENARIO	SR 509 Performance Improve throughput and travel levels of congestion on new SR 509 facility		I-5 Performance Maintain or Improve I-5 Operations between S. Spokane St and SR 518	Delay Reduce hours of delay in project study area network	Airport - Travel Time Reduce travel time between SeaTac Airport and the area south of S 200th St.	Airport - Travel Time Reliability Improve travel time reliability between SeaTac Airport and the area south of S 200th St.	Centers - Travel Time Reduce travel time between Urban Centers Manufacturing/Industrial Centers in South King County	Centers - Travel Time Reliability Improve travel time reliability between Urban Centers Manufacturing/Industrial Centers in South King County	Economic Benefit Improve economic vitality	Local and Regional Comprehensive Plan Support local and regional comprehensive land use planning and development	Safety Fatal/Serious Injury and Fatal Crashes on I-5 & SR 509	Safety Fatal/Serious Injury and fatal crashes on local arterials	Support multimodal choices to SeaTac Airport and KDM Link Light Rail Station	Improve intermodal relationships between the SeaPort, Airport, and Manufacturing/Industrial Centers	Number and location of Crossings Reduce Pedestrian/vehicle exposure	Continuity and Consistency of Pedestrian and Bicycle facilities Improve Continuity and Consistency of Pedestrian and Bicycle facilities	Sensitive Area Impact Reduce area of impact to sensitive areas	Forward Compatibility with future highway widening Reduce Right of Way impact	Right of Way Impact Reduce Right of Way impact	Sound Transit FWLE Project	PRELIMINARY COST REVIEW
No Build	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	●	●	
Scenario 3A - Moderate Connectivity	◕	◕	◕	◕	◕	◑	◕	◑	●	◕	◑	◕	●	◕	◕	◕	◕	◕	◕	◑	$ 921 M
Scenario 4A - Full Connectivity	◕	◕	◕	◕	◕	◑	◕	◑	◕	●	◑	◕	●	◕	◕	◑	◕	◕	◕	◑	$ 1095 M

Key Takeaways

SR 167:

- Scenario 2C & 2D operate well, slightly better NB I-5 performance with 2C, slightly better SB I-5 performance with 2D.
  - Need further analysis to understand best overall performance between the two scenarios.
- Scenario 4A operates well but is cost prohibitive.

SR 509:

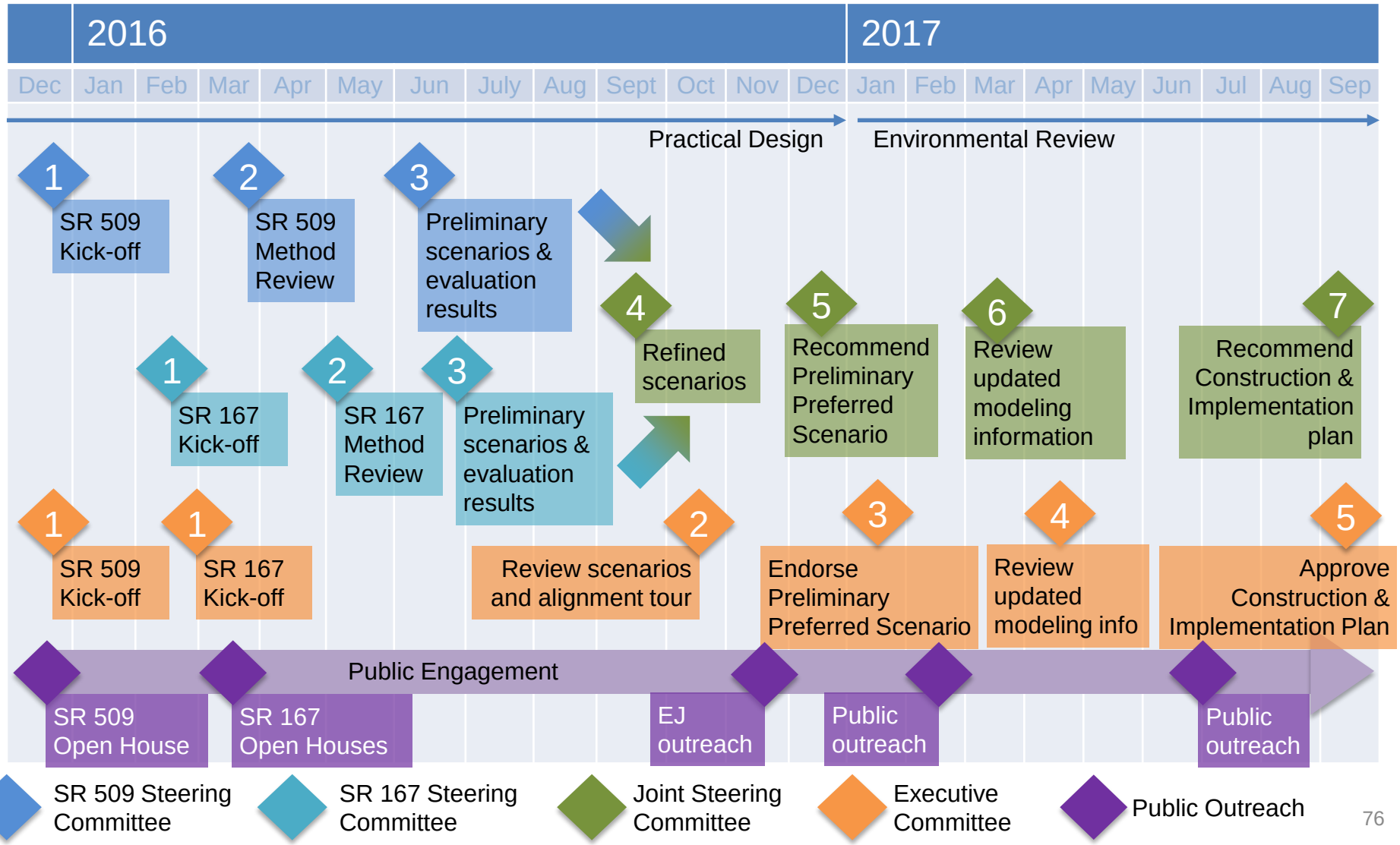
- Scenarios 3A and 4A function and rate similarly.
- Scenario 4A is cost prohibitive.

I-5

- NB I-5 improvements will be carried forward for further analysis.

Discussion

Program Schedule to Construction and Implementation Plan



WSDOT

More information:

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(206) 464-1222
stonec@wsdot.wa.gov